2002

BROWN COUNTY SEWAGE PLAN

Brown County Planning Commission
Adopted March 5, 2003
Staff Report Number 209

BROWN COUNTY SEWAGE PLAN
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Special acknowledgement is due Gary Kincaid and Kelley O'Connor of the Wisconsin Department of Natural Resources for their contributions to this report.

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2002 BROWN COUNTY SEWAGE PLAN

Executive Summary

This report represents Brown County's fifth sewage plan and is intended to be a comprehensive update of the previous plans prepared in 1972, 1982, 1987, and 1995. This plan identifies the current status of, and anticipated changes to, sewer service area planning within Brown County and its immediate environs.

The *2002 Brown County Sewage Plan* will serve as the sewer service area planning element of the four areawide water quality management plans which cover Brown County, pursuant to the Federal Clean Water Act, Wisconsin State Statutes Chapters 144.025 and 147.25, and Wisconsin Administrative Code NR 121. As such, this plan will serve as a guide for all public sanitary sewer extensions (as set forth in Administrative Code NR 121) and all private sanitary sewer extensions (as set forth in Administrative Code Com 82) to the year 2020.

The *2002 Brown County Sewage Plan* has two main objectives: to identify sewer service areas (those areas tributary to a publicly-owned sewage treatment plant to which sanitary sewer service could be provided within the next 20 years) and to identify environmentally sensitive areas (those lands located within a sewer service area within which public sanitary sewer service and associated development should not be allowed).

This planning process is designed to identify existing sewered areas, anticipate future needs for wastewater treatment, and to protect communities from adverse water quality impacts through development of cost-effective and environmentally-sound sewerage systems and sewered development.

The Brown County Planning Commission is the appointed local management agency for sewer service area planning within the Brown County area. As such, it has prepared this plan and, under the oversight of the Wisconsin Department of Natural Resources, will be responsible for its implementation and its update and refinement over time.

Both agencies recognize that the conditions and factors upon which this plan is based can and do change over time. It is, therefore, recommended that this plan be reviewed and, if necessary, revised every five years. Both agencies also recognize the importance of local input into this planning process and recommend that any revisions of the plan properly reflect local, as well as areawide, planning and development objectives. By adhering to such a process, it is believed that conflicts regarding public sanitary sewer service extensions can be minimized, and the development of the county and environs can proceed in a smooth and efficient manner.

The Brown County Sewage Plan has been reviewed by the Brown County Planning Commission staff and approved by the Brown County Sewage Plan Update Steering Committee and by the Brown County Planning Commission Board of Directors.

Approval of the *2002 Brown County Sewage Plan* by the Wisconsin Department of Natural Resources will enable the continued extension of public sanitary sewer and the continued expansion of sewered development within Brown County and its environs.

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RESOLUTION NO. 2003-01

RESOLUTION OF THE BROWN COUNTY PLANNING COMMISSION AMENDING THE ADOPTED AREAWIDE WATER QUALITY MANAGEMENT PLANS FOR BROWN COUNTY

WHEREAS, Chapter NR 121 of the Wisconsin Administrative Code, entitled *Areawide Water Quality Management Plans*, is authorized under Section 281.11 and Section 281.12(1) of the Wisconsin State Statutes to protect, maintain, and improve the quality and management of the waters of the state, ground and surface, public and private; and

WHEREAS, the Brown County Planning Commission has prepared the "2002 Brown County Sewage Plan" as required by Chapter NR 121 to comply with Section 208 of the Federal Clean Water Act;

WHEREAS, Chapter NR 121 requires the plan to be updated approximately every five years;

WHEREAS, the plan sets forth year 2020 sewer service area boundaries beyond which sanitary sewer extensions cannot be approved;

WHEREAS, the plan sets forth environmentally sensitive areas which preclude sewered development;

WHEREAS, the plan details a procedure for amendments and updates;

WHEREAS, at a meeting held on July 10, 2002, the Board of Directors of the Brown County Planning Commission adopted the "2002 Brown County Sewage Plan," as the sanitary sewer service area planning element of the Areawide Water Quality Management Plan for Brown County and environs;

WHEREAS, the Wisconsin Department of Natural Resources, by letter dated October 24, 2002, identified issues that needed to be addressed before the Department could approve the updated plan;

WHEREAS, the plan was revised to address the issues raised by the Wisconsin Department of Natural Resources;

WHEREAS, at a meeting held on December 4, 2002, the Board of Directors of the Brown County Planning Commission adopted the revised "2002 Brown County Sewage Plan" as the sanitary sewer service area planning element of the Areawide Water Quality Management Plan for Brown County and environs;

WHEREAS, the Wisconsin Department of Natural Resources, by letter dated February 4, 2003, identified further issues that needed to be addressed before the Department could approve the updated plan;

WHEREAS, the plan was further revised to address the additional issues raised by the Wisconsin Department of Natural Resources; and

WHEREAS, at a meeting held on March 5, 2003, the Board of Directors of the Brown County Planning Commission adopted the further revised "2002 Brown County Sewage Plan" as the sanitary

sewer service area planning element of the Areawide Water Quality Management Plan for Brown County and environs.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the sanitary sewer service area planning element of the Areawide Water Quality Management Plan for Brown County, entitled “2002 Brown County Sewage Plan,” includes the year 2020 sewer service areas for Brown County and environs.

BE IT FURTHER RESOLVED that the Director of the Brown County Planning Commission is authorized to submit findings to the Wisconsin Department of Natural Resources and the Wisconsin Department of Commerce that public and private sanitary sewer extensions necessary to serve anticipated development on the lands concerned are in conformance with and would serve to implement the adopted Areawide Water Quality Management Plans for Brown County as herein amended.

BE IT FURTHER RESOVED that a true, correct, and exact copy of this Resolution, together with the afore-referenced Brown County Planning Commission staff report, shall be forthwith distributed to such communities, bodies, agencies, or individuals as the law may require or as the Brown County Planning Commission or its Board of Directors at its discretion shall determine and direct. The proposed update to the sanitary sewer service area planning element of the Areawide Water Quality Management Plan for Brown County and environs, upon motion duly made and seconded, was adopted at the meeting of the Brown County Planning Commission Board of Directors held on the 5th day of March 2003, the vote being approved with 17 ayes and 3 nays.

BROWN COUNTY PLANNING COMMISSION

_____

David Mau, President

ATTEST:

_____

Chuck Lamine, Secretary

Chapter 1

INTRODUCTION

This report represents the fifth comprehensive study of the wastewater collection, treatment, and disposal needs of Brown County. It incorporates information from state water quality management plans, previous Brown County sewage plans, the Brown County land use and transportation plan, local comprehensive plans, and wastewater treatment facility plans. It also includes input from representatives of nearly every local unit of government within Brown County, including its sanitary, sewerage, and utility districts, as well as input from the Wisconsin Department of Natural Resources, community engineers, local planners and administrators, and private citizens.

When adopted by the Brown County Planning Commission and endorsed by the Wisconsin Department of Natural Resources, this plan will replace the *1995 Brown County Sewage Plan* as the sewer service area plan for Brown County. As such, this plan would guide sewered growth and development within Brown County to the year 2020.

BACKGROUND AND HISTORY

In 1972, Congress passed the Clean Water Act, a sweeping revision of the federal water pollution control laws. The Clean Water Act set forth two national goals:

1. The elimination of pollutant discharges into the nation's waters.
2. The attainment of water quality levels that would be fishable and swimmable.

More specifically, the Clean Water Act required that there be:

- Nationally uniform industrial effluent limitations.
- Special controls for toxic pollutants.
- A national pollutant discharge permit system for all point sources of pollution.
- National effluent limits for municipal dischargers.
- Comprehensive planning of both point and nonpoint sources of pollution.

Today, the Clean Water Act still remains the federal government's primary law for the protection of the nation's waters.[1]

Also in 1972, Brown County completed its first comprehensive study of wastewater collection, treatment, and disposal. The findings and recommendations of that study were set forth in a report entitled *Brown County Sewage and Solid Waste Plan – 1972*, prepared by the Brown County Regional Planning Commission, Robert E. Lee & Associates, and Roy F. Weston, Inc. The report, which was approved by the Brown County Regional Planning Commission in April 1972 and by the Wisconsin Department of Natural Resources in March 1973, addressed the long-range sewage and solid waste

[1] A brief summary of the federal and state water quality programs is set forth in Appendix A.

needs of the county and identified 1985, 2000, and ultimate sewer service areas for the county.

In 1974, in response to the Clean Water Act, Wisconsin Governor Patrick J. Lucy directed that areawide water quality management planning be undertaken for certain areas of the state. Under Wisconsin Administrative Code, Chapter NR 121, those areas (Dane County, southeast Wisconsin, and the Lower Fox River Valley), along with additional areas later designated by the Wisconsin Department of Natural Resources (DNR), were to undertake such planning. This currently includes the initial 3 areas, 18 specific river basins located throughout the state (including the 4 river basins that comprise Brown County), communities with a population greater than 10,000 people, and communities with a wastewater treatment facility that treats more than 1.0 million gallons of sewage per day.

As set forth in NR 121, areawide water quality management planning consists of a continual planning process for the management of the quality of the waters of the state, including consideration of the relationship of water quality to land and water resources and uses. Such plans are to also include a sewer service area planning element that consists of the identification and delineation of a sewer service area for existing and proposed wastewater treatment systems for a 20-year planning period that is based upon cost-effectiveness and environmental protection.

Between 1977 and 1980, the areawide water quality management plans for Brown County's four river basins (Lower Fox River, Twin-Door-Kewaunee River, Upper Green Bay, Manitowoc River) were prepared.

In February of 1978, a Memorandum of Understanding (MOU) was entered into between the Fox Valley Water Quality Planning Agency, the Brown County Planning Commission (BCPC), and the DNR regarding each agency's role in sewer service area planning. Pursuant to the MOU, the BCPC was appointed as the management agency responsible for sewer service area planning and sewer extension reviews within that portion of Brown County tributary to the Fox River.

In January of 1982, the DNR appointed the BCPC as the management agency responsible for sewer service area planning and sewer extension reviews for the remaining portions of Brown County.

Also in 1982, Donahue & Associates, Inc., completed the first update of the Brown County sewage and solid waste plan. The report, entitled *Brown County Sewage Plan Update*, was approved by the BCPC in January 1982 and by the DNR in July 1982 as the sewer service area planning element of the areawide water quality management plans for the four river basins encompassing Brown County. It can also be noted that this update for the first time in Brown County included an identification of environmental corridors (lands within which sewered development was generally prohibited).

Additional updates of the County sewage plan were prepared and approved by the BCPC and the DNR in 1987 and 1995. These updates further refined the sewer service area boundaries through use of more up-to-date land use and population data and more detailed mapping. In addition, the 1995 update revised the definition of environmental corridors (through the addition of setbacks/buffers to floodways and wetlands) and subsequently termed these areas environmentally sensitive areas (ESAs). Meanwhile, updates of the areawide water quality management plans for the four river basins within Brown County were also prepared by the DNR.

In 2002, the Brown County Planning Commission entered into MOUs with the DNR, the East Central Wisconsin Regional Planning Commission, and the Bay Lake Regional Planning Commission designating the BCPC as the sewer service area planning agency for those areas located outside of, but immediately adjacent to, Brown County, tributary to wastewater treatment plants located within Brown County.

NEED FOR SEWER SERVICE AREA PLANNING

A properly prepared sewer service area plan is intended to ensure that the provision of public sanitary sewer service is accomplished in a cost-effective and environmentally-sound manner, in conformance with local, county, regional, state, and federal plans, rules, and regulations.

The benefits of sewer service area planning are numerous and include:

- Identification of the wastewater collection and treatment needs of local communities and regions.
- Provision of efficient and environmentally-sound sewage collection and treatment systems.
- Identification of potential onsite sewage disposal problem areas.
- Protection of lakes, streams, wetlands, and groundwater from pollution associated with sewered development.
- Provision of a means for the state and local communities to plan for future growth and development rather than react to it and its demands for wastewater treatment after the fact.

SEWER SERVICE AREA PLANNING PROCESS

A sewer service area plan is usually developed locally by a regional planning commission (in this case, the Brown County Planning Commission) with oversight from the Wisconsin Department of Natural Resources. Input from local communities, sanitary districts, sewerage districts, and utility districts are obtained so that insight on local growth and wastewater treatment issues can be reflected in the plan. However, while the DNR and the BCPC shall always seek a consensus of the affected local units of government on the formulation of the goals, objectives, and policies of the sewer service area plan, it is recognized that in some cases unanimous support may not be achieved. In

those cases, the DNR and the BCPC will have to weigh the positions of the affected parties and make a final recommendation concerning the issues involved based upon cost-effectiveness and environmental impact.

Sewer service area plans use 20-year population projections, local development trends and density standards, and an inventory of environmentally sensitive areas (ESAs) to project and evaluate the wastewater collection and treatment needs of the area for the next 20 years. Sewer service area plans also rely upon local comprehensive plans and local employment and development trends to project the residential, commercial, and industrial land needs of the community. This information, together with an identification of ESAs, determines the boundaries of the sewer service areas.

Once the BCPC and the DNR approve the county sewage plan/sewer service area plan, that plan becomes an element of the areawide water quality management plan. A similar process is also undertaken for facility plans for publicly-owned wastewater treatment plants. Subsequently, all new facility plans and sanitary sewer extensions must be in conformance with the areawide water quality management plan and the sewer service area element of that plan.

Like other long-range plans, county sewage/sewer service area plans should periodically be reviewed to ensure that they continue to properly reflect local and regional objectives and needs. This review should occur on at least a five-year basis or even sooner if warranted by local growth and development pressures and trends. If it is determined that an update is necessary, the process noted above is undertaken once again. In addition, amendments of the plan are also possible. Such amendments are intended to address unanticipated situations that, while worthy of consideration, do not warrant a comprehensive update of the entire plan. In such cases, any inclusion of additional lands to a sewer service area must be documented and justified and any ESA lands identified and set aside from development.

RECENT SIGNIFICANT CHANGES

Many significant changes have occurred since the preparation of the *1995 Brown County Sewage Plan*. These changes include:

- Annexation of the Village of Luxemburg and a portion of the Town of Luxemburg in Kewaunee County to the Green Bay Metropolitan Sewerage District.
- Extension of a forcemain sewer through the New Franken Sanitary District to the Village of Luxemburg.
- Connection of the unincorporated communities of Mill Center, Kunesh, and Anston in the Town of Pittsfield to the Bayview Interceptor Sewer.
- Construction of the Ashwaubenon Creek Interceptor Sewer to serve portions of the City of De Pere, Villages of Ashwaubenon and Hobart, the Town of Lawrence, and the Oneida Tribe of Indians of Wisconsin.
- Construction of the Belmont Road interceptor to serve portions of the Village of Howard and the Town of Suamico.

- Construction of a new East River lift station and forcemain to connect to the Swan Road interceptor sewer and CTH G portion of the Ledgeview Northerly Interceptor Sewer to serve portions of the City of De Pere and the Town of Ledgeview.
- Major facilities planning efforts completed by the Village of Wrightstown and the Town of Holland Sanitary District.
- Major facilities planning efforts underway by the Town of Suamico Sanitary District.

These changes, as well as many others currently under consideration by various communities, will be incorporated into the *2002 Brown County Sewage Plan*.

COUNTY SEWAGE PLAN CONTENTS

Following this introduction, Chapter 2 contains a general description of the planning area, including the physical setting, the existing onsite and offsite wastewater collection and treatment systems, and the current population. Chapter 3 describes the current water quality issues and concerns facing the planning area. Chapter 4 sets forth the anticipated projections and trends for growth and development within this area, as well as the currently planned expansions of the area's wastewater collection and treatment systems. Chapter 5 outlines the process utilized to identify the updated sewer service areas. Chapter 6 defines and identifies the environmentally sensitive areas. Chapter 7 sets forth the procedures necessary for amendments of this plan, and Chapter 8 sets forth the steps necessary to implement this plan.

It can also be noted that the goals, objectives, and policies of this plan, as formulated by the steering committee charged with overseeing its preparation, are presented at the beginning of each pertinent chapter.

Chapter 2

PLANNING AREA DESCRIPTION

The planning area selected for the Brown County sewage plan update study is shown on Map 1. As indicated in Table 1, it encompasses 565 square miles and consists of all of Brown County, as well as adjacent portions of Kewaunee, Oconto, Outagamie, and Shawano Counties. Within this area lie 30 communities, including 2 cities, 8 villages, and 20 towns.

The planning area includes lands located outside of Brown County due to the existing and planned sewage collection, treatment, and disposal needs of the unincorporated communities of Dyckesville and Oneida and the Villages of Pulaski and Wrightstown. It does not, however, include the Village of Luxemburg in Kewaunee County. Although the Village's wastewater is treated by the Green Bay Metropolitan Sewerage District, the responsibility for its sewer service area planning lies with the Bay-Lake Regional Planning Commission (see *Village of Luxemburg Sewer Service Area Plan*, Technical Assistance Project No. 64, prepared by the Bay-Lake Regional Planning Commission).

PHYSICAL SETTING

The planning area is located in the east central portion of the Sate of Wisconsin adjacent to the waters of Green Bay. Kewaunee County lies immediately to the east, Manitowoc and Calumet Counties to the south, Outagamie and Shawano Counties to the west, and Oconto County and the waters of Green Bay to the north.

Geology

The bedrock within the planning area was formed during the Precambrian and Paleozoic eras. The underlying Precambrian bedrock is about 1.5 billion years old. There are no known outcrops or exposures of this bedrock in Brown County. Overlying the Precambrian bedrock is Paleozoic bedrock, which is about 375 to 600 million years old. Exposures of the Paleozoic bedrock are found along the Niagara Escarpment, within several larger quarries, and along some of the planning area's stream beds.

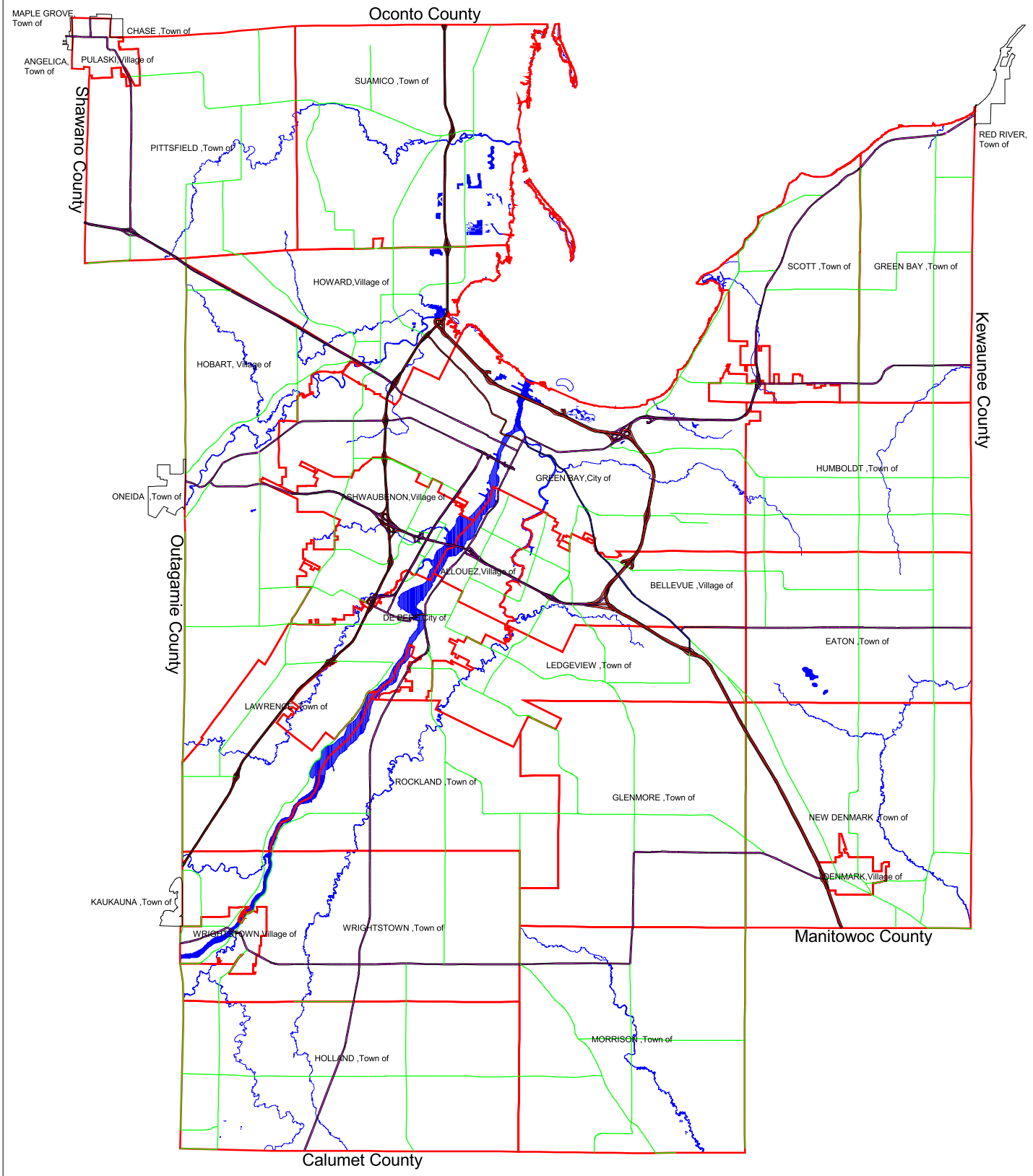
The Paleozoic bedrock is sedimentary in origin and formed at the bottom of ancient shorelands and seas. Over time and under pressure, the deposits of sands, silts, and clays were eventually transformed into sandstone, limestone, dolomite, and shale. Over the past 350 million years, erosion has removed much of the younger rock units so that today the youngest that remain are the Alexandrian and Niagaran dolomites located in the eastern portion of the planning area. The boundary between this bedrock and the next oldest period of bedrock can be seen along the escarpment.

Topography

The planning area has been greatly influenced by glacial action and the area's underlying bedrock. The area is generally characterized by gently sloping topography. The thick, prominent Niagara limestone that underlies the eastern part of the planning area gave rise to the eastern ridges of Wisconsin, and scouring by glacial ice has resulted in the removal of glacial material in some areas and the deposition of such materials in other areas. The bedrock formations also strongly influenced the drainage patterns in this area.

Table 1
Planning Area

Community	Areal Extent (sq. mi.)
City of De Pere	11.1
City of Green Bay	45.6
Village of Allouez	5.1
Village of Ashwaubenon	12.9
Village of Bellevue	14.1
Village of Denmark	1.5
Village of Hobart	32.6
Village of Howard	18.3
Village of Pulaski	2.5
Village of Wrightstown	3.0
Town of Angelica (Shawano County)	2.7
Town of Chase (Oconto County)	4.0
Town of Eaton	24.4
Town of Glenmore	33.0
Town of Green Bay	21.7
Town of Holland	36.5
Town of Humboldt	24.3
Town of Kaukauna (Outagamie County)	6.5
Town of Lawrence	16.6
Town of Ledgeview	17.7
Town of Maple Grove (Shawano County)	3.0
Town of Morrison	36.3
Town of New Denmark	35.0
Town of Oneida (Outagamie County)	6.0
Town of Pittsfield	32.5
Town of Red River (Kewaunee County)	4.5
Town of Rockland	23.1
Town of Scott	19.0
Town of Suamico	36.8
Town of Wrightstown	34.2
Total	**565**



1 0 1 2 Miles

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2002 Brown County Sewage Plan

Map 1. Study Area

Brown County Planning Commission

The western two-thirds of the planning area is associated with the roughly 4-mile-wide Fox River Valley, a continuation of the same depression forming Green Bay. This area slopes gently northeastward from Lake Winnebago in east central Wisconsin, drains to Green Bay, and is generally level to gently rolling. This lowland area contains many glacial landforms, including eskers, moraines, and remnants of extinct glacial lakes. During glacial times, the flat marshy land west and south of Green Bay had been covered by the bay. Most streams in the area flow northeastward to Green Bay. Most streams also possess shallow channels, except in a few instances where the streams have cut through softer underlying glacial landforms, such as the Fox River in the Wrightstown area.

Forming the eastern boundary of the Fox River Valley is the Niagara Escarpment, which rises relatively abruptly as high as 200 to 250 feet above the valley floor. The escarpment was formed by the erosion of older, softer bedrock underlying harder, more resistant bedrock and has been accentuated by the scouring action of glaciers. East of and alongside most of the escarpment is a narrow strip of level land. East of that is generally a slightly rolling plain which drains east and southeast toward Lake Michigan. The headwaters of a number of streams that drain to Lake Michigan are located within this area. However, gaps in the escarpment allow two streams—Baird Creek and Bower Creek—to flow westward to Green Bay. The area is generally well drained but in places has many small, wet depressions.

Due to its location between two lobes of the last glacier to advance through Wisconsin, the southeastern portion of the planning area is extremely hilly and has many poorly drained depressions. This area, which extends into southeastern Wisconsin, is called the Kettle Moraine area of the state.

Land relief within the planning area ranges from approximately 600 feet above sea level to approximately 1,000 feet above sea level. The low point in Brown County, at an elevation of about 580 feet, is located in the City of Green Bay where the Fox River enters the bay. The highest point in Brown County is located in the Town of Holland, southeast of the unincorporated community of Greenleaf, at an elevation of about 1,020 feet.

Soils

Most of the soils in the planning area formed in glacial till and lake sediment that were high in clay. The characteristic soils are slowly permeable clay loam to clays. These soils have slight to moderate limitations for farming, with wetness and tilth the greatest management concerns. The slow permeability and a relatively high shrink-swell potential also impose moderate to severe limitations for many residential- and industrial-related uses, including road construction and conventional septic system siting.

There are also areas of loamy or sandy glacial till, outwash sand and gravel, and lacustrine sediments. These soils are generally friable and have moderate to rapid permeability. These conditions create slight to moderate limitations for farming and most residential and industrial uses.

Groundwater

Groundwater is available in the planning area from three general sources: the sandstone aquifer, the Niagara dolomite aquifer, and the shallow sand and gravel aquifers. The only rock units that contain little or no recoverable water are the Maquoketa Formation and Precambrian granite.

All municipal water systems in the planning area, except for the City of Green Bay, obtain their water from wells that tap into the sandstone aquifer. The City of Green Bay primarily obtains its water from Lake Michigan via a pipeline constructed in the mid 1950s. The remainder of the planning area obtains its water from the shallow sand and gravel aquifers.

The communities with municipal water systems include the Cities of De Pere and Green Bay, the Villages of Allouez, Ashwaubenon, Bellevue, Denmark, Hobart, Howard, Pulaski, and Wrightstown, and the Towns of Lawrence, Ledgeview, Scott, and Suamico. With the exceptions of Hobart, Lawrence, Ledgeview, and Scott, these municipal water systems extend throughout the majority of the community.

Drainage

The planning area is located within the Great Lakes-St. Lawrence drainage basin. Approximately one-fourth of the area is drained by streams tributary to Lake Michigan. The remainder of the area is drained by streams tributary to Green Bay and through Green Bay to Lake Michigan. As shown on Map 2, portions of four river basins and ten watersheds are located within the planning area.

Lower Fox River Basin

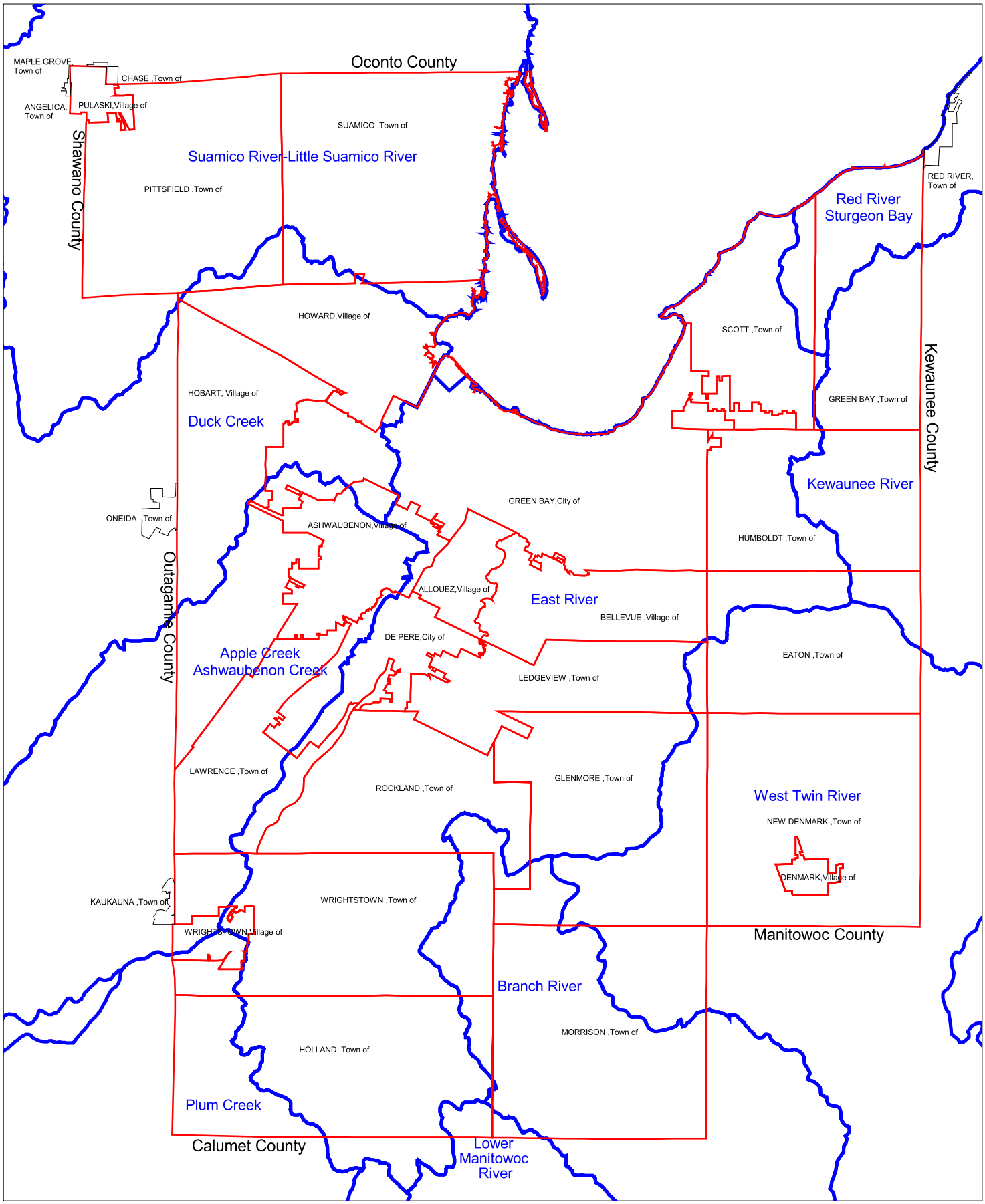
About 311.2 square miles, or about 58 percent of the planning area, is located within the Lower Fox River Basin. Portions of the Apple and Ashwaubenon Creeks Watershed, the Duck Creek Watershed, the East River Watershed, and the Plum Creek Watershed are located within the planning area. These lands generally drain northeastward to Green Bay.

The East River Watershed encompasses about 203.0 square miles, or about 38 percent of the planning area. Major streams within this area include the East and Fox Rivers and Baird and Bower Creeks.

The Apple and Ashwaubenon Creeks Watershed encompasses about 47.0 square miles, or about 9 percent of the planning area. Major streams within this area include Apple, Ashwaubenon, and Dutchman Creeks.

The Plum Creek Watershed encompasses about 13.3 square miles, or about 2 percent of the planning area. Major streams within this area include Plum Creek.

The Duck Creek Watershed encompasses about 47.9 square miles, or about 9 percent of the planning area. Major streams within this area include Duck and Trout Creeks.



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2002 Brown County Sewage Plan

Basin Boundary

Map 2. Drainage Basins

Brown County Planning Commission

Twin-Door-Kewaunee River Basin
About 114.9 square miles, or about 21 percent of the planning area, is located within the Twin-Door-Kewaunee River Basin. Portions of the Kewaunee River Watershed, the Red River and Sturgeon Bay Watershed, and the West Twin River Watershed are located within the planning area. The lands within the Kewaunee River Watershed and the West Twin River Watershed generally drain southeastward to Lake Michigan, while the lands within the Red River and Sturgeon Bay Watershed generally drain northwestward to Green Bay.

The West Twin River Watershed encompasses about 74.8 square miles, or about 14 percent of the planning area. Major streams within this area include the Devils and Neshota Rivers and King and Twin Hill Creeks.

The Kewaunee River Watershed encompasses about 27.3 square miles, or about 5 percent of the planning area. Major streams within this area include School Creek.

The Red River and Sturgeon Bay Watershed encompasses about 12.8 square miles, or about 2 percent of the planning area. Major streams within this area include the Red River and Gilson and Macco Creeks.

Upper Green Bay Basin
About 69.2 square miles, or about 13 percent of the planning area, is located within the Upper Green Bay Basin. A portion of the Suamico and Little Suamico Rivers Watershed is located within the planning area. These lands generally drain eastward to Green Bay. Major streams within this area include the Suamico River.

Manitowoc River Basin
About 41.9 square miles, or about 8 percent of the planning area, is located within the Manitowoc River Basin. Portions of the Branch River Watershed and the Lower Manitowoc River Watershed are located within the planning area. These lands generally drain southeastward to the Manitowoc River just west of the City of Manitowoc.

The Branch River Watershed encompasses about 40.0 square miles, or about 7 percent of the planning area. Major streams within this area include the Branch River.

The Lower Manitowoc River Watershed encompasses about 1.9 square miles, or about 1 percent of the planning area. Major streams within this area include Mud Creek.

Vegetation
Vegetation is largely determined by the interaction of man, climate, soil, and slope. In turn, vegetation determines what forms of animal life will be present, which then can modify the micro-environment and local vegetation. The vegetation of a region may be broken down into various types of plant communities. Each plant community is a grouping of plant species that has adapted to the local environmental conditions. Particular groupings of plant species are often found to reoccur throughout a region. In general, these groupings will possess certain dominant species but will rarely occur in

pure stands. There are typically no discrete boundaries between plant communities, and where such boundaries do occur, an abrupt change in topography, soil type, or man-made change is present.

If left under natural conditions, most upland areas in the planning area would be vegetated with hardwood forests. Such areas that had been previously cleared but allowed to return to a "natural state" will experience a succession of varied plant growth. This succession can include an initial invasion of hardy annual weeds followed by perennial species, such as woody shrubs and pioneer trees. Next appears more shade-tolerant tree species, and a forest begins to be established. Over time, the local soil is built up with humus, and if the area remains undisturbed, the forest will eventually reach a climax state. Within the planning area, a climax forest is a mature hardwood forest often dominated by sugar maple, basswood, hemlock, and American beech. These once dominated the area's landscape.

The other major historic plant community within the planning area was the inland and coastal wetlands. These wetlands were commonly located on organic soils of ancient glacial lake basins and drainageways, along the floodplains of rivers and streams, and along the shore of Green Bay. The wetland community type depended upon vegetation and water depth and included seasonally flooded basins, inland fresh meadows, shallow fresh water marshes, deep fresh water marshes, open fresh water, shrub swamps, wooded swamps, and bogs.

Wetlands are thought to have once been widespread throughout the planning area, subsequent to the retreat of the last glacier and prior to human habitation of the area. These wetlands were most likely quite extensive within both the northern and southern portions of the planning area but less so within the central portion of the planning area. The few wetlands that remain today are scattered throughout the planning area, with the largest remaining wetland complex located along the west and southwest shore of Green Bay. Smaller wetland complexes are located in the southeastern and northeastern portions of the planning area.

There are few, if any, climax plant communities left within the planning area. Most areas were either burned by native Indians or by fires during times of drought, lumbered by early settlers, or cleared for agriculture. Today, woodlands are much less extensive, less ecologically diverse, and more disturbed. They typically consist of isolated stands of successional stages of woody growth or mature second growth. The largest remaining areas of woodlands are located in the northern portion of the planning area.

EXISTING POPULATION

It is estimated that 229,423 people resided within the planning area in 2000. This includes 226,778 people within Brown County, 585 people within Kewaunee County, 481 people within Oconto County, 1,218 people within Outagamie County, and 361 people within Shawano County. See Table 2 for a summary of population by community.

Table 2
Planning Area Population

Community	Census Population				Numerical Change				Percent Change			
	1970	1980	1990	2000	1970-1980	1980-1990	1990-2000	1970-2000	1970-1980	1980-1990	1990-2000	1970 - 2000
C. of De Pere	13,309	14,892	16,594	20,559	1,583	1,702	3,965	7,250	11.9	11.4	23.9	54.5
C. of Green Bay	87,809	87,899	96,466	102,313	90	8,567	5,847	14,504	0.1	9.7	6.1	16.5
V. of Allouez	13,753	14,882	14,431	15,443	1,129	-451	1,012	1,690	8.2	-3.0	7.0	12.3
V. of Ashwaubenon	10,042	14,486	16,376	17,634	4,444	1,890	1,258	7,592	44.3	13.0	7.7	75.6
V. of Bellevue	1,736	4,101	7,541	11,828	2,365	3,440	4,287	10,092	136.2	83.9	56.8	581.3
V. of Denmark	1,364	1,475	1,612	1,958	111	137	346	594	8.1	9.3	21.5	43.5
V. of Hobart	2,599	3,765	4,284	5,090	1,166	519	806	2,491	44.9	13.8	18.8	95.8
V. of Howard	4,911	8,240	9,874	13,546	3,329	1,634	3,672	8,635	67.8	19.8	37.2	175.8
V. of Pulaski	1,717	1,875	2,200	3,013	158	325	813	1,296	9.2	17.3	37.0	75.5
V. of Wrightstown	1,020	1,169	1,262	1,934	149	93	672	914	14.6	8.0	53.2	89.6
T. of Angelica[1] (part)	155	164	153	176	9	-11	23	21	5.8	-6.7	15.0	13.5
T. of Chase[2] (part)	237	290	318	481	53	28	163	244	22.4	9.7	51.3	103.0
T. of Eaton	1,049	1,106	1,128	1,414	57	22	286	365	5.4	2.0	25.4	34.8
T. of Glenmore	1,110	1,046	1,057	1,187	-64	11	130	77	-5.8	1.1	12.3	6.9
T. of Green Bay	958	1,106	1,292	1,772	148	186	480	814	15.4	16.8	37.2	85.0
T. of Holland	1,211	1,268	1,237	1,339	57	-31	102	128	4.7	-2.4	8.2	10.6
T. of Humboldt	1,101	1,281	1,334	1,338	180	53	4	237	16.3	4.1	0.3	21.5
T. of Kaukauna[3] (part)	430	446	420	510	16	-26	90	80	3.7	-5.8	21.4	18.6
T. of Lawrence	1,622	1,431	1,328	1,548	-191	-103	220	-74	-11.8	-7.2	16.6	-4.6
T. of Ledgeview	1,365	1,535	1,568	3,363	170	33	1,795	1,998	12.5	2.1	114.5	146.4
T. of Maple Grove[1] (part)	223	225	205	185	2	-20	-20	-38	0.9	-8.9	-9.8	-17.0
T. of Morrison	1,473	1,565	1,493	1,651	92	-72	158	178	6.2	-4.6	10.6	12.1
T. of New Denmark	1,203	1,420	1,370	1,482	217	-50	112	279	18.0	-3.5	8.2	23.2
T. of Oneida[3] (part)	464	619	683	708	155	64	25	244	33.4	10.3	3.7	52.6
T. of Pittsfield	1,647	2,219	2,165	2,433	572	-54	268	786	34.7	-2.4	12.4	47.7
T. of Red River[4] (part)	517	567	557	585	50	-10	28	68	9.7	-1.8	5.0	13.2
T. of Rockland	983	882	974	1,522	-101	92	548	539	-10.3	10.4	56.3	54.8
T. of Scott	1,969	1,929	2,044	3,712	-40	115	1,668	1,743	-2.0	6.0	81.6	88.5
T. of Suamico	2,830	4,003	5,214	8,686	1,173	1,211	3,472	5,856	41.4	30.3	66.6	206.9
T. of Wrightstown	1,463	1,705	1,750	2,013	242	45	263	550	16.5	2.6	15.0	37.6
Total	**160,270**	**177,591**	**196,930**	**229,423**	**17,321**	**19,339**	**32,493**	**69,153**	**10.8**	**10.9**	**16.5**	**43.1**

[1] Located within Shawano County. [2] Located within Oconto County. [3] Located within Outagamie County. [4] Located within Kewaunee County.

Note: Year 2000 population counts for the portion of those towns located within the planning area but outside Brown County were determined by Census Block approximation. 1970, 1980, and 1990 population counts were determined by extrapolation of the relationship of population within the portion of those towns within the planning area to total population for each town.

Source: U.S. Census Bureau; Wisconsin Department of Administration, Demographic Services Center; and Brown County Planning Commission.

A review of the 1970 through 2000 population data for the communities within the planning area indicates that population levels have generally increased steadily since 1970 and have, in many cases, increased dramatically between 1990 and 2000. It can be noted that Brown County has consistently ranked among the 5 most populous counties in the state, has consistently had the third greatest numerical increase in population, and has consistently ranked among the 20 fastest growing counties in terms of rate of population growth.

In regard to numerical increase in population between 1990 and 2000, five Brown County communities (the Cities of De Pere and Green Bay, the Villages of Bellevue and Howard, and the Town of Suamico) ranked among the 25 fastest growing Wisconsin communities (with increases in excess of 3,000 people). The City of Green Bay, with an increase of nearly 6,000 people, ranked ninth in the state.

In addition, six Brown County communities (the Villages of Bellevue and Wrightstown and the Towns of Ledgeview, Rockland, Scott, and Suamico) ranked among the 56 fastest growing Wisconsin communities in terms of rate of increase (with increases in excess of 50 percent). The Town of Ledgeview, with an increase of about 114 percent, ranked fourth in the state.

EXISTING WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL SYSTEMS

Both onsite and offsite wastewater collection, treatment, and disposal systems are utilized within the planning area. Offsite systems are typically located within the urban and urbanizing portions of the planning area, while onsite systems are generally located in the rural portions. In this regard, it can be noted that both cities, all 8 villages, and 13 of the 20 towns within the planning area provide offsite wastewater collection, treatment, and disposal. It can also be noted that the cities and villages typically provide such service to their entire community, while the towns provide this service to only a portion of their community. Within these 13 towns, 2 (the Towns of Lawrence and Ledgeview) have created town-wide sanitary districts. The remaining 11 towns have created sanitary districts for only a portion of their community.

Offsite systems are generally comprised of a wastewater treatment plant and its associated interceptor sewers, forcemains, lift stations, and gravity sewers. The entire system may be owned and operated by one entity, such as in the case of the Village of Wrightstown, or the wastewater treatment plant and the interceptor sewer system may be owned and operated by one entity, such as the Green Bay Metropolitan Sewerage District, and the local sewer system owned and operated by the local unit of government.

The largest offsite system is owned and operated by the Green Bay Metropolitan Sewerage District and extends into portions of 14 communities. The smallest is owned and operated by the Town of Wrightstown Sanitary District No. 2 and encompasses one residential subdivision.

Onsite systems consist of conventional onsite waste systems, alternative onsite waste systems (usually mound systems), and holding tanks. The systems are typically located within the rural portions of the planning area. Exceptions include urban or suburban portions of the Village of Hobart and the Towns of Green Bay, Lawrence, Ledgeview, Pittsfield, Red River, Rockland, and Suamico, which contain concentrations of residential subdivisions that also rely upon onsite systems.

Offsite Systems

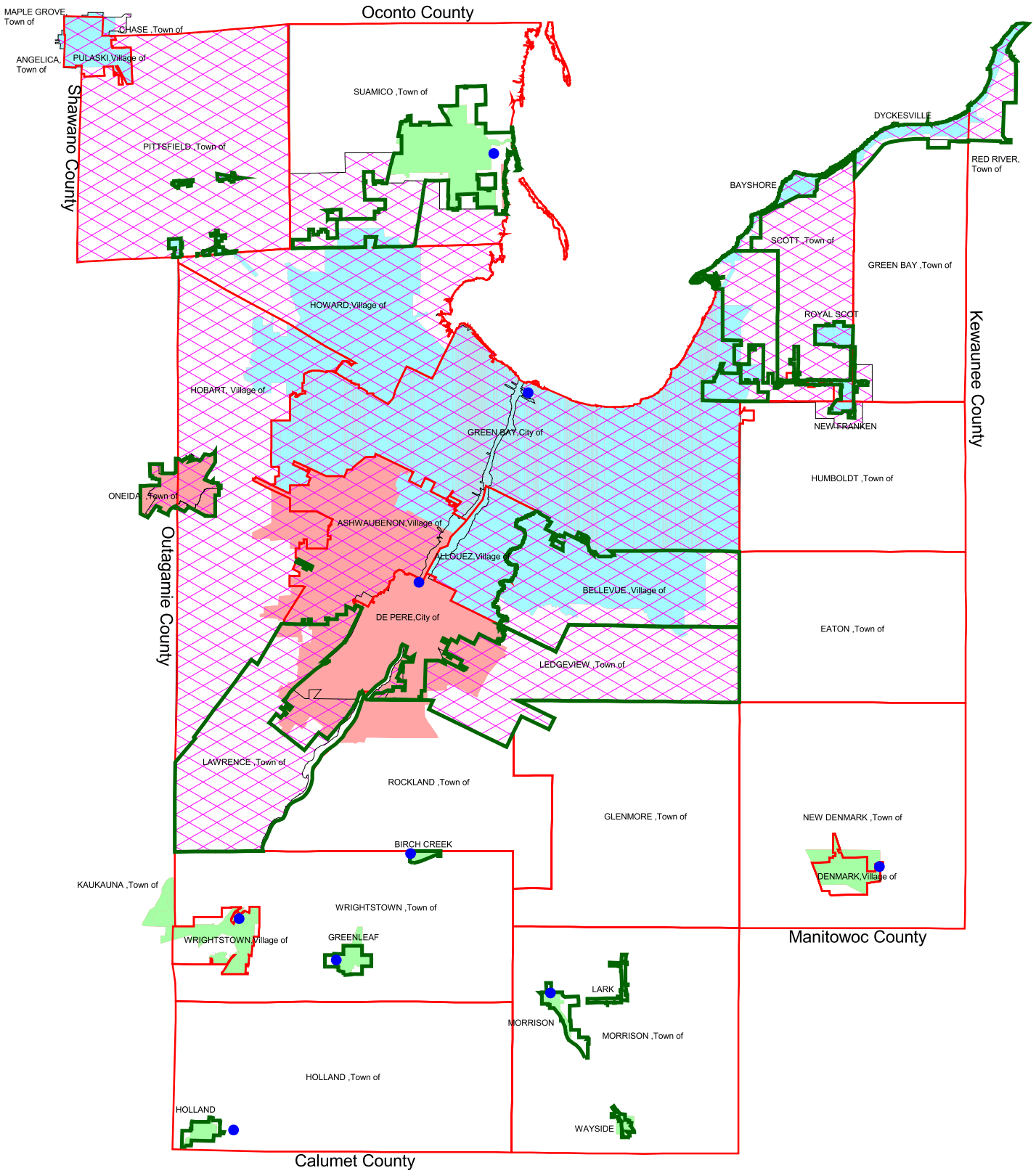
Within the planning area, most communities with wastewater treatment plants completed an upgrade of their treatment facilities under the United States Environmental Protection Agency (USEPA) Construction Grants Program in the late 1970s and early 1980s. Since then, every plant has also completed modifications to meet new and more stringent water quality standards. In addition, three plants (the Village of Pulaski, the unincorporated community of Oneida, and the Royal Scot Sanitary District) have abandoned their facilities and connected via forcemain to Green Bay Metropolitan Sewerage District facilities. It can be noted that the Village of Luxemburg wastewater treatment plant in Kewaunee County was also abandoned and connected by forcemain to the GBMSD. Furthermore, phosphorus and ammonia nitrogen removal is now required in many of the Wisconsin Pollution Discharge Elimination System (WPDES) permits. Last, a number of unsewered areas have initiated or completed facilities planning.

To gain a broader perspective of the extent of the offsite wastewater collection, treatment, and disposal systems within the planning area, Map 3 and Table 3 have been developed. Much of the planning area (about 240.0 square miles or about 42 percent) is located within one or another of the 14 sanitary districts and 1 metropolitan sewerage district. In addition, about 127.9 square miles, or about 23 percent of the planning area, is located within the *1995 Brown County Sewage Plan's* 25 adopted sanitary sewer service areas.

This chapter provides a discussion of the wastewater collection and treatment facilities for the present sewered areas. As shown on Map 3, there currently are nine publicly-owned wastewater treatment plants within the planning area.

Green Bay Metropolitan Sewerage District (GBMSD)

The GBMSD wastewater treatment plant (WWTP) was originally constructed in 1935 and was one of the first WWTPs constructed within Brown County. The current WWTP was constructed during the mid 1970s, and its last major upgrade was in 1990. Process changes included the addition of two new clarifiers, two additional aeration basins, and an improved solids handling system. Other improvements included retrofitting many parts of the plant to accommodate new processes, such as improved ammonia removal (nitrification) and de-chlorination. To address the removal of more phosphorous, the district incorporated the biological nutrient removal process (BNR) as part of the plant's expansion and upgrade. The process is designed to enhance phosphorous removal by limiting chemical additions. New septage-, sludge-, and grease-receiving sites were also constructed and put into service in March of 1994. Septage wastes are routed directly to primary treatment and are no longer sent through plant return. Digester sludge from



1 0 1 2 Miles

This is a compilation of records and data located in various Brown County and City of Green Bay offices and is to be used for reference purposes only. The map is controlled by the field measurements between the corners of the Public Land Survey System and the parcels are mapped from available records which may not precisely fit field conditions. Brown County/ City of Green Bay are not responsible for any inaccuracies or unauthorized use of the information contained within. No warranties are implied.
Map prepared by Brown County Planning Department. March, 2003.
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2002 Brown County Sewage Plan

Map 3. Existing Sanitary Districts and Sewer Service Areas

- Sanitary District Boundary
- Green Bay Metropolitan Sewage District Service Area
- DePere Treatment Area
- Green Bay Treatment Area
- Locally Treated
- Wastewater Treatment Plant

Brown County Planning Commission

Table 3

Wastewater Treatment Plants in Brown County

Wastewater Treatment Plant	Date Constructed	Date of Last Major Upgrade	Treatment Type	Sludge Disposal	Receiving Water	Design Flow (mgd)	Average Flow (mgd)	Design Loadings BOD (lbs/day)	Average Loadings BOD (lbs/day)	Permit Effluent Levels (mg/l)		Average Effluent Levels (mg/l)		Population Served in 2000	2000 CMAR Score
										BOD	TSS	BOD	TSS		
Green Bay Metropolitan Sewerage District	Original, 1935 Current, mid-1970s	1990	Activated sludge	Incineration	Mouth of Fox River	49.2	27.53	103,110	57,630	25	30	0.9	3.8	154,900	7
C. of De Pere	Original 1937 Current 1976	2000	Activated sludge	Incineration	Fox River	14.2	7.24	41,000	29,965	9	10	3.1	4.0	36,900	24
V. of Denmark	Original 1917 Current 1980	1993	Rotating biological contact	Land application	Tributary to the Neshota River	0.73	0.41	2,665	2,387	15	20	8.1	12.5	1,900	37
V. of Wrightstown	Original 1948 Current 1980	1998	Activated sludge	Land application	Fox River	0.36	0.15	720	330	30	30	8.3	17.3	1,800	17
T. of Holland Sanitary District	Original 1964 Current 1977	1994	Activated sludge	Land application	Tributary to Plum Creek	0.46	0.32	5,246	2,580	20	20	22	46	400	193
T. of Morrison Sanitary District	1993	1993	Activated sludge	Land application	Tributary to Branch River	0.06	0.04	96	65	20	20	7.6	7.1	400	37
T. of Suamico Sanitary District	1980	1999	Activated sludge	Land application	Mouth of Suamico River	0.29	0.25	552	430	30	30	15.3	13.8	3,400	30
T. of Wrightstown Sanitary District #1	Original 1962 Current 1995	1995	Activated sludge	Land application	Tributary to East River	0.13	0.05	150	82	20	20	4.5	3.0	600	5
T. of Wrightstown Sanitary District #2	1970	1970	Stabilization pond	Land application	Tributary to East River	0.01	0.009	17	15	20	20	11	39	50	116

Source: Year 2000 Compliance Maintenance Annual Reports, facility plans, and 1995 Brown County Sewage Plan

surrounding treatment plants is blended with Gravity Belt Thickener (GBT). Thickened sludge is then pumped to the de-watering process. Construction of a hydrogen peroxide system was recently completed, as well. Hydrogen peroxide is utilized in the de-watering process for odor and hydrogen sulfide control.

The GBMSD WWTP is an activated sludge treatment plant designed to treat domestic and industrial wastes. Effluent is discharged to the mouth of the Fox River, and sludge disposal is accomplished through incineration.

The GBMSD WWTP has a design hydraulic loading capacity of 49.2 million gallons per day (mgd) on an average annual flow basis. The average monthly flow rate in 2000 was 27.53 mgd. The WWTP also has a design Biological Oxygen Demand (BOD) loading on an average annual basis of 103,110 pounds per day (lbs/day). The average monthly BOD loading in 2000 was 57,630 lbs/day. WPDES permit effluent levels for BOD and Total Suspended Solids (TSS) are 25 milligrams per liter (mg/l) and 30 mg/l respectively, while average monthly effluent levels in 2000 for BOD and TSS were 0.9 mg/l and 3.8 mg/l respectively.

The GBMSD acts as a wastewater treatment wholesaler for an estimated population of 154,926 people (see Table 4) and encompasses 232.0 square miles. The existing sewer service areas encompass 104.8 square miles. The GBMSD includes the City of Green Bay and the Villages of Allouez, Ashwaubenon, Bellevue, Hobart, Howard, Luxemburg (in Kewaunee County), and Pulaski and the Towns of Lawrence, Ledgeview, Pittsfield, and Scott. In addition, portions of the Town of Oneida in Outagamie County and the Towns of Green Bay, Pittsfield, Red River (in Kewaunee County), and Scott are included, as well. At present, wastewater from parts of the Villages of Ashwaubenon and Hobart and parts of the Towns of Ledgeview, Lawrence, and the Oneida Reservation is treated at the De Pere wastewater treatment plant. The GBMSD WWTP accepts significant industrial processed wastes from within the service area and has an industrial pretreatment program in place.

Since the last update of the county sewage plan, the GBMSD has:

- In cooperation with the City of De Pere, constructed the Ashwaubenon Creek interceptor sewer to serve portions of the City of De Pere, Villages of Ashwaubenon and Hobart, Town of Lawrence, and the Oneida Tribe of Indians.
- Constructed a new East River lift station, forcemain, and interceptor sewer to serve portions of the City of De Pere and the Town of Ledgeview.
- Extended service to the Pittsfield Sanitary District No. 1 and has annexed the remainder of the lands within the Town of Pittsfield.
- Extended service to the New Franken Sanitary District and has annexed additional lands adjacent to the sanitary district.
- Annexed lands and extended service to the Village of Luxemburg and a portion of the Town of Luxemburg in Kewaunee County.
- Annexed additional lands within the Town of Red River in Kewaunee County.

A comprehensive facility plan for the GBMSD was last prepared in 1989. A sludge

processing improvements plan was prepared in 1999.

Table 4
Estimated Population Within the GBMSD WWTP Service Area[2]

Community	Year 2000 Population		
	Sewered	Non-Sewered	Total
City of De Pere[3]	500	0	500
City of Green Bay	102,013	300	102,313
Village of Allouez	15,443	0	15,443
Village of Ashwaubenon[4]	4,040	0	4,040
Village of Bellevue	11,328	500	11,828
Village of Hobart[5]	1,971	2,269	4,240
Village of Howard	12,889	657	13,546
Village of Pulaski	3,013	0	3,013
Town of Green Bay	362	1,410	1,772
Town of Humboldt	90	230	320
Town of Lawrence[6]	0	0	0
Town of Ledgeview[7]	0	0	0
Town of Pittsfield	300	2,133	2,433
Town of Red River	265	320	585
Town of Scott	2,712	1,000	3,712
Total	154,926	8,819	163,745

Source: GBMSD and the Brown County Planning Commission.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the GBMSD WWTP has consistently met all of its permit requirements and is operating well within its design parameters.

City of De Pere

The De Pere WWTP was originally constructed in 1937. The current plant was constructed in 1976, and its last major upgrade was in 2000. Process changes included a

[2] Does not include the Village of Luxemburg in Kewaunee County with a sewered population of 1,964 people (located outside the planning area).

[3] By agreement between the GBMSD and the City of De Pere, approximately 500 people within the City of De Pere are served by the GBMSD WWTP.

[4] The entire Village of Ashwaubenon is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, only 4,040 people are served by the GBMSD WWTP. The remainder are served by the City of De Pere.

[5] The entire Village of Hobart is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, approximately 1,971 people are served by the GBMSD WWTP, and approximately 850 people are served by the City of De Pere WWTP..

[6] The entire Town of Lawrence is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, the entire Town is to be served by the City of De Pere WWTP.

[7] The entire Town of Ledgeview is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, the entire Town is to be served by the City of De Pere WWTP.

retrofit of the gravity filter building and an improved solids handling system.

The facility is a two stage activated sludge treatment plant designed to treat domestic and industrial wastewater. Effluent is discharged to the Fox River. The waste activated sludge is processed using gravity belt thickeners and multi-plate pressure filters and is then incinerated. Residual waste activated sludge in excess of the above process are dewatered by means of belt filter presses and hauled to a landfill site for disposal.

The existing De Pere WWTP has a design hydraulic loading capacity of 14.2 (mgd) on an average annual flow basis. The average monthly flow rate in 2000 was 7.24 mgd. The WWTP also has a design BOD loading on an average annual basis of 41,000 lbs/day. The average monthly BOD loading in 2000 was 29,965 lbs/day. WPDES permit effluent levels for BOD and TSS are 9 mg/l and 10 mg/l respectively, while average monthly effluent levels in 2000 for BOD and TSS were 3.1 mg/l and 4.0 mg/l respectively.

The 2000 population of the City of De Pere is 20,559 people. However, the existing sewer service area for the treatment plant encompasses 10.3 square miles within the City of De Pere but also includes a major portion of the Villages of Ashwaubenon and Hobart and a portion of the Towns of Lawrence, and Ledgeview, and the unincorporated community of Oneida. The population within the entire service area is estimated at 36,909 people (see Table 5). The City of De Pere has agreed to provide wastewater treatment at its plant to areas within the GBMSD. The terms of the agreement call for GBMSD to determine which of the two plants (the City of De Pere plant or its own GBMSD plant) is to provide wastewater treatment for areas within GBMSD. The two wastewater authorities determine future sewer service extensions within their separate territories.

Since the last update of the county sewage plan, the City of De Pere has:

- In cooperation with the GBMSD, constructed the Ashwaubenon Creek interceptor sewer to serve portions of the City of De Pere, Villages of Ashwaubenon and Hobart, Town of Lawrence, and the Oneida Tribe of Indians.
- Annexed and extended service to lands formerly within the Town of Lawrence immediately south of Red Maple Road along Lawrence Drive.
- Annexed and extended service to lands formerly within the Town of Ledgeview associated with the Daanen Saddlebrook subdivision.

A comprehensive facilities plan for the De Pere WWTP was last prepared in 1974. Amendments to the facility plan were prepared in 1991 and 1996 for the disinfection system and in 2000 for the solids dewatering system.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the De Pere WWTP has consistently met all of its permit requirements and is operating well within its design parameters.

Village of Denmark

The Denmark WWTP was originally constructed in 1917 and was the first publicly-owned sewage treatment facility in Brown County. The current plant was constructed in

1980, and its last major upgrade was in 1993. The changes in 1993 consisted of the construction of a trickling filter pretreatment system, septate receiving facilities, and increased sludge storage facilities.

Table 5

Estimated Population Within the City of De Pere WWTP Service Area

Community	Year 2000 Population		
	Sewered	Non-Sewered	Total
City of De Pere[8]	20,059	0	20,059
Village of Ashwaubenon[9]	13,594	0	13,594
Village of Hobart[10]	850	0	850
Town of Lawrence[11]	400	1,148	1,548
Town of Ledgeview[12]	2,006	1,357	3,363
Town of Oneida[13]	543	0	543
Total	36,909	2,505	39,414

Source: GBMSD and the Brown County Planning Commission.

The Denmark WWTP is a rotating biological contactor (RBC) treatment plant designed to treat domestic and industrial wastes. Effluent is discharged to the Neshota River. Sludge disposal is accomplished through land application.

The Denmark WWTP has a design hydraulic loading capacity of 0.73 mgd on an average annual flow basis. The average monthly flow rate in 2000 was 0.41 mgd. The WWTP also has a design BOD loading on an average annual basis of 2,665 lbs/day. The average monthly BOD loading in 2000 was 2,387 lbs/day. WPDES permit effluent levels for BOD and TSS are 15 mg/l and 20 mg/l respectively, while average monthly effluent levels in 2000 for BOD and TSS were 8.1 mg/l and 12.5 mg/l respectively.

The existing sewer service area consists of the Village of Denmark, encompasses 2.0 square miles, and has an estimated population of about 1,845 people.

[8] By agreement between the GBMSD and the City of De Pere, approximately 20,059 people are served by the City of De Pere WWTP. The remainder are served by the GBMSD WWTP.

[9] By agreement between the GBMSD and the City of De Pere, approximately 13,594 people within the Village of Ashwaubenon are served by the City of De Pere WWTP. The remainder are served by the GBMSD WWTP.

[10] The entire Village of Hobart is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, the entire Village is to be served by the City of De Pere WWTP. The City of De Pere WWTP presently serves approximately 850 people within the Village. This includes the portion of the Oneida area within the Village.

[11] The entire Town of Lawrence is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, the entire Town is to be served by the City of De Pere WWTP. The City of De Pere WWTP presently serves approximately 400 people within the Town.

[12] The entire Town of Ledgeview is within the GBMSD. However, by agreement between the GBMSD and the City of De Pere, the entire Town is to be served by the City of De Pere WWTP. The City of De Pere WWTP presently serves approximately 2,006 people within the Town.

[13] Detailed sewered information for the Town of Oneida was not available. Sewered population was assumed to be that residing within the current SSA.

No major changes have occurred since the last update of the county sewage plan.

A comprehensive facilities plan for the Denmark WWTP was last prepared in 1990.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the Denmark WWTP has met its permit conditions. However, the average monthly BOD loadings have reached 90 percent of the WWTP's design capacity during 6 of the 12 months and have exceeded its design capacity 2 of those times.

Village of Wrightstown
The Wrightstown WWTP was originally constructed in 1948. The current plant was constructed in 1980, and its last major upgrade was in 1998. Such changes included a new fine bar screen for grit removal, a biological phosphorus removal system with chemical addition backup, ultraviolet light disinfection, a rotary drum sludge thickener, and a new SCADA system.

The Wrightstown WWTP is an activated sludge treatment facility. Effluent is discharged to the Fox River. Sludge disposal is accomplished through land application.

The Wrightstown WWTP has a design hydraulic loading capacity of 0.36 mgd on an average annual flow basis. The average monthly flow rate in 2000 was 0.15 mgd. The WWTP also has a design BOD loading on an average annual basis of 720 lbs/day. The average monthly BOD loading in 2000 was 330 lbs/day. WPDES permit effluent levels for BOD and TSS are 30 mg/l and 30 mg/l respectively, while average monthly effluent levels in 2000 for BOD and TSS were 8.3 mg/l and 17.3 mg/l respectively.

The existing sewer service area consists of the Village of Wrightstown, encompasses 1.9 square miles, and has an estimated population of about 1,757 people.

Since the last update of the county sewage plan, the Village of Wrightstown has:
- Annexed and extended service to lands formerly within the Town of Wrightstown immediately south of STH 96 along CTH D.
- Annexed and extended service to lands within the Town of Kaukauna in Outagamie County.

A comprehensive facilities plan for the Wrightstown WWTP was last prepared in 1977. An infiltration and inflow study was prepared in 1977, and a sewer system evaluation survey was prepared in 1978. An amendment to the facilities plan was prepared in 1996 to address the disinfection, biosolids storage, and total phosphorus requirements of the WPDES permit.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the Wrightstown WWTP has generally met its permit requirements. However, it can be noted that its average monthly TSS effluent level reached 90 percent of its permit level twice and exceeded its permit level once during 2000. The average monthly phosphorus

effluent level also exceeded its permit level twice during 2000. The Wrightstown WWTP is otherwise operating within its permit and design parameters.

Town of Holland Sanitary District No. 1
The Holland WWTP was originally constructed in 1964. The current plant was constructed in 1977, and its last major upgrade was in 2002. Such changes included a fine bar screen for the raw sewage pumps, construction of a mixed and aerated equalization base, biological phosphorus removal with a chemical addition backup, a new fine bubble aeration and plug flow aeration, an aeration diffuser addition to the onsite storage tank which was converted to an aerobic digester, addition of a belt filter press for sludge dewatering, and construction of a 180-day sludge storage building.

The Holland WWTP is an activated sludge treatment facility. Effluent is discharged to an unnamed tributary of Plum Creek. Sludge disposal is accomplished through land application.

The Holland WWTP has a design hydraulic loading capacity of 0.46 mgd on an average annual flow basis. The average monthly flow rate in 2000 was 0.32 mgd. The WWTP also has a design BOD loading on an average annual basis of 5,246 lbs/day. The average monthly BOD loading in 2000 was 2,580 lbs/day. WPDES permit effluent levels for BOD and TSS are 20 mg/l and 20 mg/l respectively, while average monthly effluent levels in 2000 for BOD and TSS were 22 mg/l and 46 mg/l respectively.

The existing sewer service area includes a portion of the Town of Holland, encompasses about 0.4 square miles, and has an estimated population of about 300 people.

It should be noted that prior to its recent upgrade, the Holland WWTP has frequently exceeded its design flow capacity, its design BOD loading capacity, and its effluent permit levels for BOD, TSS, and phosphorus. These problems have primarily been attributed to influent loading fluctuations and occasional toxicity episodes.

A comprehensive facilities plan for the Holland WWTP was last prepared in 2000 and approved by the DNR in January 2002.

Morrison Sanitary District No. 1
The Morrison WWTP was constructed in 1994.

The Morrison WWTP is an activated sludge treatment facility. Effluent is discharged to an unnamed tributary of the Branch River. Sludge is disposed of on surrounding agricultural lands.

The Morrison WWTP has a design hydraulic loading capacity of 0.06 mgd on an average annual flow basis. The average monthly flow rate in 2000 was 0.04 mgd. The WWTP also has a design BOD loading on an average annual basis of 96 lbs/day. The average monthly BOD loading in 2000 was 65 lbs/day. WPDES permit effluent levels for BOD and TSS are 20 mg/l and 20 mg/l respectively, while average monthly effluent levels in

2000 for BOD and TSS were 7.6 mg/l and 7.1 mg/l respectively.

The existing sewer service area includes a portion of the Town of Morrison, encompasses about 0.6 square miles, and has an estimated population of about 500 people.

A comprehensive facilities plan was prepared in 1985 and amended in 1986, 1988, and 1991.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the Morrison WWTP has generally met its permit requirements and design parameters. However, it can be noted that its average monthly TSS effluent level exceeded its permit level once during 2000. The Morrison WWTP also reached 90 percent of its average monthly design flow capacity 1 month during 2000, reached 90 percent of its average monthly design BOD loading capacity 4 of 12 months, and exceeded its average monthly design BOD loading capacity 2 months.

Suamico Sanitary District No. 1
The Suamico WWTP was originally constructed in 1980, and its last major upgrade was in 1999. Such changes included the construction of de-chlorination facilities.

The Suamico WWTP is an activated sludge facility. Effluent is discharged to the mouth of the Suamico River in the Bay of Green Bay. Sludge is transported to the City of Oconto for disposal.

The Suamico WWTP has a design hydraulic loading capacity of 0.29 mgd on an average annual flow basis. The average monthly flow rate in 2000 was 0.25 mgd. The WWTP also has a design BOD loading on an average annual basis of 552 lbs/day. The average monthly BOD loading in 2000 was 430 lbs/day. WPDES permit effluent levels for both BOD and TSS are 30 mg/l, while average monthly effluent levels in 2000 for BOD and TSS were 15.3 mg/l and 13.8 mg/l respectively.

The existing sewer service area includes a portion of the Town of Suamico, encompasses about 5.1 square miles, and has an estimated population of about 3,900 people.

A comprehensive facilities plan was last prepared in 1978. A second comprehensive facilities plan was prepared in 1995 but was not implemented due to concerns expressed by the DNR. A new facilities plan is currently under preparation.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the Suamico WWTP has generally met its permit requirements and design parameters. However, it can be noted that its average monthly BOD effluent level exceeded its permit level once during 2000, and its average monthly TSS effluent level also exceeded its permit level once during 2000. The Suamico WWTP also reached 90 percent of its average monthly design flow capacity 3 of 12 months during 2000.

Wrightstown Sanitary District No. 1 (Greenleaf)
The Greenleaf WWTP was originally constructed in 1962. The current plant was constructed in 1995.

The wastewater facility is an activated sludge treatment facility. Effluent is discharged to a tributary of the East River. Sludge disposal is accomplished by land application onto surrounding agricultural lands.

The Greenleaf WWTP has a design hydraulic loading capacity of 0.13 mgd on an average annual flow basis. The average monthly flow rate in 2000 was 0.05 mgd. The WWTP also has a design BOD loading on an average annual basis of 150 lbs/day. The average monthly BOD loading in 2000 was 82 lbs/day. WPDES permit effluent levels for both BOD and TSS are 20 mg/l, while average monthly effluent levels in 2000 for BOD and TSS were 4.5 mg/l and 3.0 mg/l respectively.

The existing sewer service area includes a portion of the Town of Wrightstown, encompasses about 0.7 square miles, and has an estimated population of about 565 people.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the Wrightstown WWTP has consistently met its permit requirements and design parameters.

Wrightstown Sanitary District No. 2 (Birch Creek)
The Birch Creek WWTP was constructed in 1970.

The Birch Creek WWTP has a design hydraulic loading capacity of 0.01 mgd on an average annual flow basis. The average monthly flow rate in 2000 was .009 mgd. The WWTP also has a design BOD loading on an average annual basis of 17 lbs/day. The average monthly BOD loading in 2000 was 15.3 lbs/day. WPDES permit effluent levels for both BOD and TSS are 20 mg/l, while average monthly effluent levels in 2000 for BOD and TSS were 11 mg/l and 39 mg/l respectively.

The existing sewer service area includes a portion of the Town of Wrightstown, encompasses about 0.2 square miles, and has an estimated population of about 50 people.

According to its 2000 Compliance Maintenance Annual Report (CMAR), the Wrightstown WWTP has exceeded its design flow capacity one month and has exceeded its design permit effluent levels for BOD one month, for TSS five months, and for pH limits two months.

Onsite Systems
Onsite wastewater systems are those which store, treat, or dispose of wastewater (or perform a combination of these functions) on the site at which the wastewater is generated. Onsite wastewater systems are used in those areas that are not served by offsite systems. Within the planning area, this includes the Towns of Angelica, Chase,

Eaton, Glenmore, Kaukauna, Maple Grove, and New Denmark, and portions of the Towns of Green Bay, Holland, Humboldt, Lawrence, Ledgeview, Morrison, Oneida, Pittsfield, Red River, Rockland, Scott, Suamico, and Wrightstown. Approximately 63 percent of the planning area is served by onsite wastewater systems.

Furthermore, small portions of the City of Green Bay and the Villages of Ashwaubenon and Howard and large portions of the Villages of Bellevue and Hobart also contain widely scattered onsite wastewater systems.

The planning area continues to experience rapid growth in many of its rural communities. Many of these communities, including portions of the Village of Hobart and the Towns of Green Bay, Lawrence, Ledgeview, Pittsfield, Rockland, and Suamico, have experienced significant suburban growth utilizing onsite systems. This growth is accompanied by an increasingly important need to properly treat and dispose of wastewater. As of December 31, 2002, the Brown County Zoning Administrator's Office has inventoried 1,531 holding tanks, 2,671 pressure systems, and 3,215 gravity flow systems. These systems account for those installed after 1977. Brown County Zoning Department staff estimates that approximately 12,500 onsite systems exist countywide. These systems represent the options to accommodate development where public sewer does not exist.

Appendix B provides a more detailed discussion of onsite systems within the planning area.

Chapter 3

WATER QUALITY ISSUES AND CONCERNS

GOALS, OBJECTIVES, AND POLICIES

Goal #1 To conduct an assessment of existing and potential surface and groundwater quality problems within the planning area, including a general assessment of both point and nonpoint sources of pollution.

In 1972, Congress passed the Clean Water Act in response to growing public concern about widespread water pollution. At that time, Lake Erie was dying, the Potomac River was clogged with blue-green algae blooms, and many of the nation's rivers were little more than open sewers. All across the country sewage was washing up on shores, fish kills were common, and wetlands were disappearing at an alarming rate.

Those same problems were also present within the planning area. Water quality, particularly within the lower Green Bay and the Fox River, began a serious decline in the 1920s due to industrial effluent, agricultural runoff, and municipal sewage discharges. In addition, many of the bay shore wetlands were filled. By the mid 1940s, the Bay Beach swimming area was closed, and Fox River fish kills were common.

The Clean Water Act was enacted to reverse those trends and to be the primary federal law to protect the nation's lakes, rivers, aquifers, and coastal areas. To achieve that purpose, the act's primary objective was to restore and maintain the integrity of the nation's waters through two fundamental goals:

1. Eliminate the discharge of pollutants into the nation's waters.
2. Achieve water quality levels that are fishable and swimmable.

Almost immediately after passage of the Clean Water Act, the nation's waters began to improve. With implementation of a permitting system and performance standards associated with municipal and industrial wastewater discharges and the resultant increase in the number and quality of wastewater treatment facilities, pollution levels within the nation's waters began to decline.

Within the planning area, the paper mills located along the Fox River began to install wastewater treatment systems or they began to arrange for treatment of their wastes at the new Green Bay Metropolitan Sewerage District (GBMSD) facility. In addition, the City of De Pere also began construction of a new sewage treatment facility. Thus, as elsewhere in the country, signs of water quality improvement were evident. Within the planning area, water clarity began to improve, and fish began to repopulate the lower bay and the Fox River.

Today, the greatest threat to the nation's water quality is not pollution from large single-source dischargers (point source pollution) but from many small, scattered, and diffuse

sources (nonpoint source pollution). Nonpoint source pollution is typified by soil erosion and by phosphorus and nitrogen-laden runoff entering the nation's waters from both urban and rural areas.

WATER QUALITY ASSESMENT

A number of studies have been undertaken by various federal, state, and regional agencies into one aspect or another of water quality within the planning area. A summary of the more significant and comprehensive of those studies is set forth below.

The DNR has prepared an impaired waters list, as required by the Clean Water Act, for the purpose of developing Total Maximum Daily Loads (TMDLs) for those waterbodies which do not meet federal water quality standards. The 1998 list, which is to be updated every two years, is also intended to help the state develop and implement strategies to protect and help clean up those waters. Within the planning area, the lower Green Bay, the East and Fox Rivers, and Dutchman and Trout Creeks have been designated as impaired waters.

It can also be noted that the Fox River has been identified as the second leading source of suspended sediments to Lake Michigan by the United States Geological Society (USGS). It can be further noted that the International Joint Commission (IJC) has identified the lower Fox River as 1 of 43 areas of concern in the Great Lakes.

As early as 1953, researchers discovered that closely spaced wells in the Green Bay area resulted in the formation of a deep cone of depression in the groundwater level in the vicinity of the wells. This resulted in a serious decline in water levels within the central portion of the planning area. However, since 1957, the City of Green Bay has used a combination of Lake Michigan water and groundwater for its water supply needs. The construction of the pipeline to Lake Michigan and reliance upon groundwater only during times of high demand in summer months resulted in an immediate rebound of groundwater levels in the area. However, since that time, groundwater levels have steadily declined due to increased usage by the communities surrounding the City of Green Bay.

Numerous studies have indicated that the Sandstone Aquifer cannot meet the long-term needs of the Green Bay area municipalities. It has, therefore, been recommended that a Lake Michigan water source be pursued.

In addition to the water quantity concern noted above, water quality concerns are also present within the planning area. Most municipal wells in the planning area do not meet water quality standards set by the Environmental Protection Agency for radium. If the municipal systems continue to rely upon groundwater for their water supply needs, they will be required to build water treatment facilities to reduce the high radium levels.

Other groundwater quality concerns being investigated within the planning area include potentially high levels of arsenic and salinity.

U.S.G.S. National Water Quality Assessment Program

In 1991, the U.S. Geological Survey initiated a National Water Quality Assessment Program. The program was intended to meet the continuing need for sound scientific information on the extent of water quality problems, how those problems were changing over time, and how human actions and natural factors have affected water quality conditions. The program consists of an exhaustive study of 50 separate areas of the nation and intends to revisit each area on a ten-year basis to evaluate changes in water quality conditions. One such area encompasses the Western Lake Michigan Drainages Area. This area covers approximately the eastern one-third of Wisconsin and the central portion of the Upper Peninsula of Michigan and roughly extends from Lake Michigan on the east to Portage County on the west, from Kenosha County on the south to Marquette County, Michigan, on the north. From 1992 to 1995, a variety of water quality indicators associated with groundwater, surface water, and biological resources were investigated within this area.

The National Water Quality Assessment Program for the Western Lake Michigan Drainages Area concluded with a comparison of these findings with those of the 49 other areas of the country. The conclusions were based upon a review of seven surface water quality characteristics and five groundwater quality characteristics. Of these characteristics, one portion or another of the Western Lake Michigan Drainage Area ranked among the worst in six of the seven surface water categories and in four of the five groundwater categories.

More specifically for the Brown County area:

- Phosphorus levels in surface water at the Duck Creek testing station exceeded the EPA suggested MCL 91 percent of the time. Levels of up to six times this suggested standard were recorded.
- Nitrate levels in surface water at the East River testing station exceeded the EPA MCL on three occasions. Although nitrate levels at the Duck Creek location did not exceed the MCL, they did exceed levels that contribute to algal blooms 20 percent of the time.
- Pesticides were present in numerous wells in south central Brown County (centered around the Town of Morrison) and in northeastern Brown County (centered around the northern half of the Town of Green Bay).
- Levels of the pesticides Atrazine and Metolachlor in surface water at the Duck Creek site exceeded the EPA MCL on four occasions.
- PCB levels in fish tissue were higher in the Fox River than in any other stream in the Western Lake Michigan Drainage Area.

In addition, an index of biotic integrity (a study of the overall health of streams through a comparison of stream habitat, fish communities, benthic invertebrates, and algae) was undertaken of 28 streams within the Western Lake Michigan Drainages study area. The study, which was intended to provide an indication of overall water quality, concluded

that the East River ranked second from last and Duck Creek ranked third from last in a review of the 28 sites.

Wisconsin Department of Natural Resources 303(d) Waterbody Program

Section 303(d) of the Clean Water Act requires that states identify those waters that are not meeting water quality standards. This information, which must be updated every two years, is to be used by the states as the basis for development of Total Maximum Daily Loads (TMDLs). TMDLs are the maximum amounts of pollutants a waterbody can receive each day while still meeting state-designated water quality standards and uses. The DNR first prepared its 303(d) list, commonly referred to as the Impaired Waters List, in 1996 and updated it in 1998. The 1998 list was subjected to public review and subsequently prioritized by the DNR. A schedule for TMDL analysis was proposed. This information has been submitted to the EPA for approval.

Within the planning area, the lower Green Bay, the Fox and East Rivers, and the Dutchman and Trout Creeks have been identified as impaired waters. A priority ranking was established by the DNR to create a schedule for commitment of its resources to impaired waters projects. For the Fox River, the priority was high, and for the other four waterbodies, the priority was medium.

Water quality impairments to the Fox River included PCB fish consumption advisories and low levels of dissolved oxygen. Factors causing these impairments included contaminated sediments and pollution from both point and nonpoint sources.

Water quality impairments to the lower Green Bay included PCB fish consumption advisories, excessive levels of bacteria, and low levels of dissolved oxygen. Factors causing these impairments were varied and complex and are discussed in detail in the *Lower Green Bay Remedial Action Plan*.

Water quality impairments to the East River included sedimentation of the stream bottom, loss of in-stream habitat, excessive total suspended solids leading to turbidity, excessive levels of nutrients, low levels of dissolved oxygen, and fish kills. Factors causing these impairments included pollution from nonpoint sources, such as barnyard runoff.

Water quality impairments to Dutchman Creek included excessive levels of ammonia and nutrients. Factors causing these impairments included pollution from nonpoint sources.

Water quality impairments to Trout Creek included sedimentation of the stream bottom, excessive levels of nutrients, low levels of dissolved oxygen, hydrologic modifications of the stream leading to unacceptable flow conditions, loss of in-stream habitat, and PCB fish consumption advisories. Factors causing these impairments include pollution from nonpoint sources, such as storm runoff from urban areas.

Wisconsin Department of Natural Resources Water Quality Management Plans

As previously noted, four water quality management plans pertain to the planning area. They include the *Lower Fox River Basin Plan*, dated October 1991, the *Upper Green Bay Basin Plan*, dated January 1993, the *Twin-Door-Kewaunee Plan*, dated March 1995, and the *Manitowoc River Basin Plan*, dated May 1997.

Lower Fox River Basin

Stream conditions have generally improved in large part due to the construction of new and the upgrade of existing wastewater treatment plants (WWTPs). Currently, the greatest water quality challenge within the basin is the need to address toxic contaminants, excessive nutrients, and the destruction of fish and wildlife habitat.

As one of Wisconsin's most heavily urbanized and industrialized areas, stormwater runoff has significantly contributed to water quality problems. Nonpoint sources of pollution include runoff from existing commercial, industrial, freeway, and residential land uses. In addition, the basin also includes significant amounts of agricultural lands which contribute to nonpoint source pollution through runoff from barnyards, winter spread livestock manure, eroding agricultural lands, eroding stream banks, and other poor land use practices.

Water quality studies reveal that most of the basin's streams and the lower Green Bay suffer from excessive loadings of sediment, nutrients, bacteria, and heavy metals.

Upper Green Bay Basin (Suamico and Little Suamico Rivers Watershed)

Stream conditions have generally not been significantly degraded and, where water quality problems have arisen, have generally been resolved. Currently, the greatest water quality need is to ensure that it continues to be maintained and that any new sources of concern, such as contaminated sediments and nonpoint source pollution, are addressed.

Because of the rapid growth of unsewered development anticipated within this area, caution in the siting and construction of onsite sewage disposal systems is necessary because of high water tables and relatively impervious soils within this watershed.

Twin-Door-Kewaunee (West Twin River, Kewaunee River, and Red River and Sturgeon Bay Watersheds)

Stream conditions have generally not been significantly degraded and, where water quality problems have arisen, have generally been resolved. Currently, the greatest water quality need is to ensure that it continues to be maintained and that any new sources of concern, such as nonpoint source pollution, are addressed.

Wetland drainage, cropland erosion, stream bank pasturing, and barnyard runoff have, however, contributed to degraded water quality in several streams in these watersheds. Portions of these watersheds contain shallow soils and exposed bedrock and, thus, are susceptible to groundwater contamination.

Manitowoc River Basin (Branch River Watershed)
Stream conditions have generally not been significantly degraded and, where water quality problems have arisen, have generally been resolved. Currently, the greatest water quality need is to ensure that it continues to be maintained and that any new sources of concern, such as polluted runoff and soil erosion, are addressed.

However, the Branch River, which is classified as a Class III Trout Stream, is threatened by adjacent poor land use practices resulting in stream bank pasturing, cropland erosion, stream bank erosion, and barnyard runoff. In addition, groundwater contamination is present within the watershed and includes re-occurring bacteria and nitrate problems.

Wisconsin Department of Natural Resources Lower Green Bay Remedial Action Plan
The Lower Green Bay Remedial Action Plan is a long-range strategy plan for improving water quality and restoring the beneficial uses of the Lower Green Bay and the Fox River. Persistent water quality problems have impaired the health of these waterbodies and have restricted their use for fishing and swimming. A joint Canadian and United States agreement recommends that the two countries prepare Remedial Action Plans (RAPs) for 43 areas that have been identified adjacent to the Great Lakes by the IJC. The RAP is intended to define corrective measures needed to restore the beneficial uses of such waterbodies. The IJC accepted the RAP for the Lower Green Bay area in 1988. The latest update/status report was prepared in 1993.

The IJC has identified 14 "use impairments" that, if documented, would result in the designation of an area as an area of concern. It can be noted that 11 of those use impairments have been documented within the Lower Green Bay area and that two others are suspected of being impaired, as noted below:

- Fish and Wildlife Consumption Restrictions — Present
- Fish and Wildlife Flavor Tainting — Suspected
- Degraded Fish and Wildlife Populations — Present
- Fish Tumors or Other Deformities — Suspected
- Bird or Animal Deformities or Reproductive Problems — Present
- Degradation of Benthos — Present
- Dredging Activity Restrictions — Present
- Eutrophication or Undesirable Algae — Present
- Drinking Water Consumption Restrictions/Taste and Odor Problems — Present
- Beach Closings — Present
- Degradation of Aesthetics — Present
- Added Costs to Agriculture or Industry — Absent
- Degradation of Phytoplankton and Zooplankton Populations — Present
- Loss of Fish and Wildlife Habitat — Present

The Lower Green Bay RAP contributed most of these use impairments to excess phosphorus, suspended solids, toxic substances, and wetland losses.

Brown County Land and Water Plan

In 1999, the Brown County Land Conservation Department undertook the preparation of a plan to identify and prioritize land and water resource issues and to develop a five-year management plan to address water quality protection. The plan was a direct result of the statutory requirements of the Land and Water Resource Management Program under Chapter 92 of the Wisconsin State Statutes. The plan identified such problems by watershed as set forth below.

Kewaunee River Watershed

Water quality concerns include seasonal low stream flows and relatively high water temperatures (primarily due to natural limitations) and agricultural pollutants, such as sediments, phosphorus, and organic matter.

Red River/Sturgeon Bay Watershed

Water quality concerns revolve around nonpoint sources of pollution, including animal lot runoff, cropland erosion, street and parking lot runoff, and construction site erosion and runoff. Principal pollutants of concern are sediment, bacteria, nutrients, and toxic materials, such as heavy metals.

Branch River Watershed

Water quality concerns revolve around point and nonpoint source pollution, including animal lot runoff and cropland erosion. Secondary sources of nonpoint source pollution include gully and stream bank erosion. It can also be noted that the Branch River has been proposed as an exceptional resource water.

Duck Creek-Apple/Ashwaubenon Creek Watershed

Water quality concerns revolve around nonpoint source pollution, including such pollutants as sediment and phosphorus. A steady decrease of wetlands has also led to degraded water quality and unstable stream base flows. Secondary sources of nonpoint source pollution include gully and stream bank erosion.

West Twin River Watershed

Water quality concerns revolve around polluted runoff, including barnyard runoff, cropland erosion, stream bank pasturing, and wetland drainage.

Plum Creek Watershed

Water quality concerns revolve around point and nonpoint source pollution, including dairy wastewater discharges, barnyard runoff, cropland erosion, and stream bank pasturing.

Suamico River Watershed

Water quality concerns revolve around anticipated rapid unsewered growth and development and the need to carefully control the siting and construction of onsite sewage disposal systems.

East River Watershed
Water quality concerns revolve around sedimentation of the streams primarily from upland, gully, and stream bank erosion. Secondary sources of nonpoint source pollution include barnyard runoff. Additional concerns include loss of shoreland cover/vegetation.

MITIGATING INFLUENCES

Mitigation of the afore-referenced water quality impacts can be achieved by implementation of the following local, county, state, and federal land use controls:

- Local, county, and state erosion control plans, rules, and ordinances.
- Local, county, state, and federal stormwater management plans, rules, and ordinances.
- Local, county, and state shoreland, floodplain, and wetland rules and ordinances.
- State land use control and environmental protection rules and policies, such as the Chapter 30 permitting process, the water quality certification process, and the sewer service area planning process.

Erosion Control

While erosion is a natural process, excessive erosion generally creates a less favorable environment for plant growth. Excessive erosion also removes nutrients from the soil, which can then accumulate in water and lead to such problems as algal blooms and lake eutrophication. Deposition of eroded materials can fill drainage channels, damage fish habitat, and degrade water quality in lakes, rivers, and streams.

Soil erosion from construction sites has long been identified as a significant source of sediment and other suspended solids in runoff. In some states, such as Wisconsin, sediment has been identified as the number one pollutant (by volume) of surface waters. The rate of soil erosion during construction is about 10 to 100 times greater than the rate of erosion from agriculture. For every acre under construction, an amount equal to about one and one-half dump truck loads (up to 30 tons) of soil is washed away.

To combat these problems, federal, state, and local regulations have been enacted to control erosion. Federal regulations currently require erosion control plans and erosion control measures for all construction sites five acres in size or larger. This is implemented at the state level through Administrative Code NR 216. These federal and state regulations will be revised in 2003 to include all construction sites one acre or larger in size. Another state erosion control requirement is found in state statutes regarding ordinance requirements for certain activities under the jurisdiction of the Wisconsin Department of Commerce.

In addition, erosion control practices are typically required by Brown County for agricultural activities located within agricultural shoreland areas, for development and land-disturbing activities located within shoreland areas, during road and sanitary sewer

construction projects, and for any projects that require an environmentally sensitive area amendment.

Last, many local communities, including the Cities of De Pere and Green Bay, have adopted erosion control ordinances, which require the preparation of erosion control plans and the implementation of erosion control measures during most construction activities. In addition, most Brown County communities require erosion control plans on a case-by-case basis.

Stormwater Management Plans and Ordinances

Stormwater runoff is water from rainstorms or snowmelt that flows over the land rather than evaporating or soaking into the ground. Urban areas typically generate more stormwater runoff than rural areas because buildings and pavement cover so much of the land and prevent water from soaking into the ground. Furthermore, to prevent street and basement flooding, urban areas have generally created extensive drainage systems to carry "excess" water from such development to nearby waterways. This sequence of events often leads to increased storm flows and decreased baseflow, increased erosion of channels and creation of a wider floodplain, poor water quality, and loss of habitat and recreational uses.

Although urban development is only a small portion of the land in Wisconsin, its stormwater runoff seriously affects the quality of the state's water resources. Stormwater runoff has also been determined to be the most common transport mechanism for nonpoint source pollution, with the majority of pollutant loading occurring during and immediately after storm events. Examples of commonly occurring nonpoint source pollutants include sediment, pesticides, and nutrients from farm fields and oil, grease, heavy metals, and other toxic materials from streets, rooftops, and parking lots in urban areas. Nonpoint sources of pollution have been considered Wisconsin's greatest cause of water quality concern, degrading about 40 percent of the state's streams, about 90 percent of its inland lakes, many of its Great Lakes harbors and coastal waters, and substantial portions of its groundwater.

In response to these concerns, federal, state, and local regulations have been enacted to address and control stormwater runoff and nonpoint source pollution. These efforts include a federal stormwater permit program under the Clean Water Act amendments of 1987 and Wisconsin's Pollutant Discharge Elimination System permits. In addition, Administrative Code NR 216 also requires the preparation and implementation of stormwater management plans (along with erosion control plans) for all construction sites five acres or larger in size. As previously noted, these federal and state regulations will be revised in 2003 to include all construction sites one acre or larger in size.

Other Programs

Other programs, such as local, county, and state shoreland floodplain and wetland rules and ordinances, and state land use control and environmental protection rules and policies, such as the Chapter 30 permitting process, the water quality certification

process, and the sewer service area planning process, can and often do address erosion control, stormwater management, and nonpoint source pollution.

SUMMARY

Review of the preceding information indicates that while significant strides have been taken toward water quality improvement within the planning area, much still remains to be done. In general, point source pollution concerns are being adequately addressed; although, continued monitoring and permitting efforts are necessary to ensure that water quality gains reached in this respect are maintained. In addition, as further review of the TMDL requirements are undertaken, revisions to point source permits and to the permitting system may be necessary.

However, high levels of sediment, phosphorus, and toxic substances within many of the planning area's watersheds are an existing problem and are anticipated to become an even greater and wider spread problem if current levels of nonpoint source pollution continue. Of particular concern are the high levels of sediment, bacteria, nutrients, and toxic materials, such as heavy metals, entering both surface and groundwater from adjacent urban, suburban, rural, and agricultural land uses. This problem is envisioned to escalate if unsewered growth and shoreland development trends within the planning area continue.

Factors which have the potential to mitigate many of these impacts and which are currently being implemented to one degree or another within the planning area are erosion control, stormwater management, and nonpoint source pollution control. When undertaken for both water quality and water quantity purposes and consistently implemented throughout watersheds, these management practices can and have addressed these concerns. An encouraging sign in this regard is the rising interest in and the implementation of stormwater management practices by a growing number of communities within the planning area.

Chapter 4

PROJECTIONS AND TRENDS

GOALS, OBJECTIVES, AND POLICIES

Goal #1 To conduct forecasts of demographic and economic growth, projected land use patterns, and municipal and industrial sources of pollution on an areawide basis.

POPULATION ANALYSIS AND PROJECTIONS

As shown on Table 6, four base years (1970, 1980, 1990, and 2000) and interim population projections prepared by the State of Wisconsin Department of Administration and the Brown County Planning Commission were used to estimate future population growth by community.[14]

The resulting projections show the planning area continuing to grow at a relatively high rate through the year 2020. It can be noted that this rate is approximately twice that projected for both the region and the state over the same time-period. As displayed in Table 6, the planning area has consistently exhibited increases in population from census to census; although, the rate of increase has varied over the decades. At the same time, the various minor civil divisions (towns, villages, and cities) of the County have varied more significantly in their rates of growth. Most notable and consistent are the sizeable gains in population for the Cities of De Pere and Green Bay, the Villages of Bellevue and Howard, and the Town of Suamico. These municipalities are expected to see their population increase by a combined total of about 30,000 people over the next 20 years (about 70 percent of the planning area's projected population increase).

The only communities anticipated to lose population over the next 20 years are the Towns of Angelica and Maple Grove.

[14] The year 2010 and 2020 population projections were obtained from the Wisconsin Department of Administration's Demographic Services Center. The projections are interim numbers prepared by Department staff based upon the same standards and guidelines used by the Department in its formulation of the state's official population projections and includes the year 2000 census data. However, department staff has requested that this information be replaced when the official population projections become available, anticipated by late 2003.

Table 6 - Planning Area Population Comparisons

Community	Census				Projections		Numerical Change				Percent Change			
	1970	1980	1990	2000	2010	2020	1970-1990	1980-2000	1990-2010	2000-2020	1970-1990	1980-2000	1990-2010	2000-2020
C. of De Pere	13.309	14.892	16.594	20.559	23.190	25.595	3.285	5.667	6.596	5.036	24.7	38.1	39.7	24.5
C. of Green Bay	87,809	87,899	96,466	102,313	106,701	110,313	8,657	14,414	10,235	8,000	9.9	16.4	10.6	7.8
V. of Allouez	13.753	14.882	14.431	15.443	15.828	16.107	678	561	1.397	664	4.9	3.8	9.7	4.3
V. of Ashwaubenon	10,042	14,486	16,376	17,634	19,025	20,257	6,334	3,148	2,649	2,623	63.1	21.7	16.2	14.9
V. of Bellevue	1,736	4,101	7,541	11,828	15,129	18,229	5,805	7,727	7,588	6,401	334.4	188.4	100.6	54.1
V. of Denmark	1,364	1,475	1,612	1,958	2,188	2,396	248	483	576	438	18.2	32.7	35.7	22.4
V. of Hobart	2,599	3,765	4,284	5,090	5,792	6,435	1,685	1,325	1,508	1,345	64.8	35.2	35.2	26.4
V. of Howard	4,911	8,240	9,874	13,546	16,372	19,005	4,963	5,306	6,498	5,459	101.1	64.4	65.8	40.3
V. of Pulaski	1,717	1,875	2,200	3,013	3,560	4,068	483	1,138	1,360	1,055	28.1	60.7	61.8	35.0
V. of Wrightstown	1,020	1,169	1,262	1,934	2,349	2,737	242	765	1,087	803	23.7	65.4	86.1	41.5
T. of Angelica[1] (part)	155	164	153	176	169	160	-2	12	16	-16	-1.3	7.3	10.5	-9.1
T. of Chase[2] (part)	237	290	318	481	497	509	81	191	179	28	34.2	65.9	56.3	5.8
T. of Eaton	1,049	1,106	1,128	1,414	1,578	1,727	79	308	450	313	7.5	27.8	39.9	22.1
T. of Glenmore	1,110	1,046	1,057	1,187	1,244	1,292	-53	141	187	105	-4.8	13.5	17.7	8.8
T. of Green Bay	958	1,106	1,292	1,772	2,102	2,409	334	666	810	637	34.9	60.2	62.7	35.9
T. of Holland	1,211	1,268	1,237	1,339	1,379	1,409	26	71	142	70	2.1	5.6	11.5	5.2
T. of Humboldt	1,101	1,281	1,334	1,338	1,355	1,364	233	57	21	26	21.2	4.4	1.6	1.9
T. of Kaukauna[3] (part)	430	446	420	510	501	523	-10	64	81	13	-2.3	14.3	19.3	2.5
T. of Lawrence	1,622	1,431	1,328	1,548	1,798	2,029	-294	117	470	481	-18.1	8.2	35.4	31.1
T. of Ledgeview	1,365	1,535	1,568	3,363	4,302	5,183	203	1,828	2,734	1,820	14.9	119.1	174.4	54.1
T. of Maple Grove[1] (part)	223	225	205	185	184	169	-18	-40	-21	-16	-8.1	-17.8	-10.2	-8.6
T. of Morrison	1,473	1,565	1,493	1,651	1,712	1,762	20	86	219	111	1.4	5.5	14.7	6.7
T. of New Denmark	1,203	1,420	1,370	1,482	1,538	1,583	167	62	168	101	13.9	4.4	12.3	6.8
T. of Oneida[3] (part)	464	619	683	708	756	798	219	89	73	90	47.2	14.4	10.7	12.7
T. of Pittsfield	1,647	2,219	2,165	2,433	2,612	2,769	518	214	447	336	31.5	9.6	20.6	13.8
T. of Red River[4] (part)	517	567	557	585	601	620	40	18	44	35	7.7	3.2	7.9	6.0
T. of Rockland	983	882	974	1,522	1,844	2,144	-9	640	870	622	-0.9	72.6	89.3	40.9
T. of Scott	1,969	1,929	2,044	3,712	4,690	5,606	75	1,783	2,646	1,894	3.8	92.4	129.5	51.0
T. of Suamico	2,830	4,003	5,214	8,686	11,110	13,387	2,384	4,683	5,896	4,701	84.2	117.0	113.1	54.1
T. of Wrightstown	1,463	1,705	1,750	2,013	2,184	2,336	287	308	434	323	19.6	18.1	24.8	16.0
Total	**160,270**	**177,591**	**196,930**	**229,423**	**252,290**	**272,921**	**36,660**	**51,832**	**55,360**	**43,498**	**22.9**	**29.2**	**28.1**	**19.0**

[1]Located within Shawano County. [2]Located within Oconto County. [3]Located within Outagamie County. [4]Located within Kewaunee County.

Notes: Year 2000 population counts for the portion of those communities located within the planning area but outside Brown County were determined by census block approximation.
1970, 1980, and 1990 population counts for those communities located within the planning area but outside Brown County were determined by extrapolation of the relationship of population between the portion of the community within the planning area to the entire community in 2000.
Year 2010 and 2020 population projections for communities within Brown County were obtained from the DOA.
Year 2010 and 2020 population projections for communities outside Brown county were obtained from the BCPC by extrapolation of the relationship of population between the portion of the community within the planning area to the entire community in 2000.

Source: U.S. Census Bureau; Wisconsin Department of Administration, Demographic Services Center; and Brown County Planning Commission.

Within the planning area, the number of people per household has been declining while the population has been climbing, a condition found in many other Wisconsin communities and nationally, as well. This trend indicates that more dwelling units will be needed to accommodate a given population. From 1970 to 2000, the County's average household size dropped from 3.5 to 2.5. This is consistent with the national average, which fell from 3.2 to 2.5. Furthermore, data gathered by the Brown County Planning Commission shows a steady increase in lot sizes served by public sewer. Hence, a direct relationship can be drawn between these numbers and the increasing amount of land devoted to residential use.

Population and land use data clearly indicate that the planning area and the Green Bay urban area are in a period of consistent growth. According to the *Brown County Year 2020 Land Use and Transportation Plan,* urban expansion is being fueled by a strong, diversified economy that has led Brown County to become one of the major growth areas of Wisconsin. This pattern is expected to continue throughout the planning period.

Facility Planning

As previously noted in Chapter 2, there are nine publicly-owned wastewater treatment plants located within the planning area. Between these, approximately 87 percent of the population and approximately 23 percent of the areal extent of the planning area currently receive public sanitary sewer service. This includes all of the Cities of De Pere and Green Bay, all of the Villages of Allouez, Ashwaubenon, Denmark, and Pulaski, major portions of the Villages of Howard and Wrightstown, portions of the Villages of Bellevue and Hobart (including the Oneida area), and the Towns of Green Bay, Holland, Humboldt, Lawrence, Ledgeview, Oneida, Pittsfield, Red River, Scott, Suamico, and Wrightstown.[15]

Facility planning within the planning area is a continuing process. In addition to the recent facility planning efforts of the Village of Luxemburg, De Pere/Ashwaubenon/Hobart/Lawrence/Oneida/GBMSD (Ashwaubenon Creek Interceptor Sewer), Village of Wrightstown, and the Town of Holland Sanitary District noted in Chapter 1, the Suamico Sanitary District and Howard/Hobart/Oneida/GBMSD (an extension of the Duck Creek Interceptor Sewer from Pamperin Park to STH 29 and CTH FF) are currently undergoing major facility planning efforts.

GBMSD has provided information or conducted studies investigating providing treatment services to unsewered areas presently conducting or anticipating conducting facilities planning. Some of these areas include the Town of Union in Door County, expansion of the Oneida Sewer Service Area, Pittsfield Sanitary District #1, Suamico Sanitary District #1, and additional portions of the Towns of Scott, Ledgeview, Rockland (new area not yet serviced), Lawrence, and the Villages of Denmark and Hobart. Also, the Wisconsin DNR has requested that GBMSD provide information regarding service to

[15] Public sanitary sewer service is envisioned to be provided to a portion of the Village of Wrightstown in Outagamie County by the end of 2002.

the Village of Casco in Kewaunee County and the Town of Little Suamico in Oconto County. The information was requested to assist in planning efforts which consider regionalization. GBMSD also undertakes continual interceptor improvements to provide adequate capacity to handle the year 2015 flow projections.

Suamico Sanitary District
In mid-2002, the Suamico Sanitary District completed a comprehensive update of its facility plan, which was last prepared in 1995. This latest update recommends abandonment of the Suamico WWTP and connection of the Suamico area to the GBMSD. GBMSD and DNR review and consideration of that proposal is anticipated early in 2003.

Howard/Hobart/Oneida/GBMSD (Duck Creek Interceptor Sewer)
An extension of the Duck Creek Interceptor sewer into Hobart and Howard near STH 29 and CTH FF is anticipated in 2003. This will enable sewer service to be provided to the northern portion of Hobart and the southwestern portion of Howard.

De Pere/Ledgeview/GBMSD (Ledgeview Northerly Interceptor Sewer)
An extension of the Ledgeview Northerly Interceptor sewer eastward from CTH GV and Dickinson Road in Ledgeview will enable the provision of sewer service to the southern portion of Bellevue and the northern portion of Ledgeview. This extension is anticipated in 2003.

Oneida Tribe of Indians of Wisconsin
The Oneida Tribe of Indians of Wisconsin 1838 Treaty Boundary area is located in Brown and Outagamie Counties. The area can be characterized primarily as rolling farmland and interspersed woodland with scattered development.

Since 1974, the tribe has embarked on numerous facility planning efforts targeted towards three specific areas within the reservation.

Initial facilities planning targeted the Site I area, which includes the established densely populated "village" area.

As a result of facility planning efforts, new sanitary sewers were constructed to serve sewered developments within the Site I area. Sewage from these newly sewered areas and the existing collection system in Site I is now transported by a lift station and forcemain to the Dutchman Creek interceptor owned by the Green Bay Metropolitan Sewerage District for treatment at the De Pere wastewater treatment facility.

In 1994, the Oneida Utility Commission (OUC) executed an amendment to the original "Agreement for Wastewater Treatment Services" with GBMSD. The agreement provides for a peak discharge of 1.0 cubic feet per second (cfs) within the interceptor to accommodate the sewer service area over a 20-year planning period. It also allowed for expansion of the sewer service area. In exchange, the OUC agreed to undertake a study of long-term options regarding how flows above 1 cfs from the sewer service area could be controlled and managed.

Wastewater treatment for the Site II development, including the Green Earth trailer park, homes on Ranch Road and CTH "H," and the Oneida Tribe public works building is provided by stabilization lagoon facilities with seasonal surface discharge to Duck Creek. The existing health center complex/Anna John Nursing Home and Redstone Elderly Housing facility, at Site III (CTH "E" and "EE"), are served by individual septic tanks that discharge effluent to a common soil absorption system.

Wastewater management throughout the remainder of the reservation consists of onsite disposal systems using conventional or pressurized soil absorption systems or holding tanks.

Continued use of the existing wastewater management system is limited. The current allocation for the Site I area is 1 cubic foot per second (cfs). Therefore, wastewater flows conveyed to the GBMSD system cannot exceed 1 cfs. Recent projections indicate the Oneida area may reach the 1 cfs limit between 2004 and 2006.

A wastewater treatment lagoon facility, such as the facility that serves Site II, does not provide adequate treatment to meet discharge limits that are required by the United States Environmental Protection Agency (EPA). This 2-cell stabilization lagoon discharges treated effluent to an intermittent stream that flows into Fish Creek and eventually to Duck Creek. The Site II lagoon system was designed to provide 180 days of storage. Due to excessive influent flows to the lagoons, Cell 1 overflows the berms. Therefore, it is likely that an alternative treatment method will be needed for Site II in the near future.

In 1993, the Oneida Tribe of Wisconsin initiated facilities planning to address documented problem areas within the Oneida study area. The plan included the Site II and Site III areas and recommended the construction of a gravity flow system over upgrading existing failed onsite systems. The report noted site and soil limitations causing onsite system problems or failures throughout the reservation. Extensive areas are not suitable for soil absorption systems, due to soil limitations and high groundwater levels. There is a need to upgrade or replace failing onsite systems and limit the use of onsite systems in the identified problem areas.

A number of options are available to the OUC to address reservation wastewater disposal needs. Regional options include developing an interconnected sewerage system for Sites I, II, and III which would discharge to either the GBMSD, Freedom Sanitary District, or a tribal-owned and managed treatment facility.

Other sewerage options the Oneida Tribe is currently considering include cluster-type systems to accommodate developments of approximately 20 homes, upgrades of isolated individual onsite systems, and treatment systems designed to accommodate neighborhood developments of approximately 200 homes. Numerous technologies are available under each wastewater management option and all, if properly located, designed, and maintained, could provide long-term wastewater treatment for both

existing development and potential growth.

The Oneida Tribe has taken the position that further research and evaluation will dictate which systems are appropriate for particular situations.

Based on projections from the Oneida Utilities Commission, it is likely the 1 cfs capacity allocated to the tribe in the Dutchman Creek interceptor will be reached around 2004-2006. Conveyance system improvements could increase capacity to 3.0 cfs. However, given the anticipated growth expected within the reservation, this additional capacity could be exhausted soon after 2010.

Based on the above, it appears paramount that wastewater management needs must be considered early in the planning development process. A wastewater management option must be pursued immediately to address the concerns in the Site II and Site III development areas. It is the GBMSD's understanding that Oneida is presently reviewing their long-range options.

SUMMARY

Based upon the above information, it can be assumed that sewered development will continue to occur within the planning area at rates comparable to those at present. Although separate or isolated areas of new sewered growth and development are not anticipated within the planning area during the timeframe of this plan, continued sewered growth and development within the Green Bay metropolitan area (particularly the communities of De Pere, Green Bay, Howard, and Bellevue) are anticipated. Significant sewer growth and development are also anticipated within the Town of Suamico and, to a slightly lesser extent, within the Village of Wrightstown and the Town of Ledgeview. The remaining sewered areas within the planning area are anticipated to experience more modest growth and development.

Additional, more detailed information on the projected amount and location of sewered growth within the planning area is set forth in Chapter 5.

Chapter 5

SANITARY SEWER SERVICE AREAS

As noted earlier in this plan, the Wisconsin Department of Natural Resources is required to undertake, or to appoint another public agency to undertake, sanitary sewer service area planning within designated portions of the state and for all communities with a population greater than 10,000 people.

In 1974, the governor designated Brown County as one of the three original areas in Wisconsin required to have sewer service area plans. Furthermore, the DNR appointed the Brown County Planning Commission as the agency responsible for the sewer service area planning within the County.

The most important objective of the sewer service area planning process is the preparation and update of the sewer service area plan. The Brown County sewage plan has two main objectives: to identify sewer service areas (those areas tributary to a publicly-owned sewage treatment plant to which sanitary sewer service could be provided within a 20-year timeframe) and to identify environmentally sensitive areas (those lands located within a sewer service area within which public sanitary sewer service and associated development should not be allowed).

GOALS, OBJECTIVES, AND POLICIES

Goal #1 To incorporate the findings and recommendations of local, regional, and state plans and planning efforts pertaining to land use, development, environmental protection, and the provision of sanitary sewer service into the sewer service area planning process to the greatest extent possible.

- Objective #1 Encourage consistency between the sewer service area planning process and local and regional Smart Growth comprehensive plans.
- Objective #2 Encourage consistency between the sewer service area planning and facility planning processes.
- Objective #3 Encourage consistency between the sewer service area planning process and local and regional conservation by design, traditional neighborhood design, concurrency of services, and urban service area recommendations.

Goal #2 To ensure adequate long-range sewer service area planning.

- Objective #1 Accommodate current, projected, and planned rates of growth and development within delineated sewer service areas.
  - Policy #1 Population growth and residential, commercial, and industrial projections that are reflective of actual

growth and development rates shall be utilized in the sewer service area planning process.

Policy #2 Population growth and residential, commercial, and industrial development, wastewater flows and loadings, and sewer service areas shall be identified for a 20-year time span.

Objective #2 Consider market factors and wastewater treatment facility capabilities in the determination of the size and location of sewer service areas.

Policy #1 Sewer service areas located outside the planning area but tributary to sewage treatment facilities within the planning area shall abide by similar objectives, policies, standards, and criteria as those set forth in this *2002 Brown County Sewage Plan*.

Policy #2 The suitability and appropriateness of lands located within and adjacent to identified sewer service areas shall be identified for sewered development in light of existing trends and information.

Policy #3 Sewer service area planning shall occur concurrently with and shall be consistent with facility planning.

Policy #4 Sewer service areas shall not be sized or located in a manner which would contribute to a violation of a wastewater treatment facility's permit conditions.

Goal #3 To promote cost-effective, environmentally-sound, and socially-acceptable waste collection and treatment systems.

Objective #1 Exclude from sewer service areas the major areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints.

Objective #2 Minimize governmental sewerage service costs.

Policy #1 Service extensions should be planned.

Policy #2 Duplication of facilities should be avoided.

Objective #3 Stage the installation of facilities.

Policy #1 Sewerage extensions and treatment facilities should be planned so that they can be installed incrementally as needed in a cost-effective manner.

Policy #2 Facilities should be sized for design-year population equivalents.

Policy #3 Long extensions across undeveloped property should be avoided.

Objective #4 Encourage the institution of a technically and economically feasible wastewater collection, treatment, and disposal system within the planning area.

Objective #5 Formulate sewerage assessment policies that encourage compact development and discourage inefficient and uneconomical unsewered growth and development.

Objective #6 Encourage efficient and economical sewered growth and development and discourage inefficient and uneconomical unsewered growth and development.

Policy #1 Future development within the planning area should be encouraged into areas able to provide the necessary urban services.

Policy #2 New urban development served by onsite sewage disposal systems should be discouraged in areas planned to receive sanitary sewer service during the life of this plan.

Objective #7 Where offsite wastewater treatment is not politically, environmentally, economically, and socially feasible and the proposed development is in accordance with areawide and community plans, the use of appropriate onsite sewage disposal systems should be encouraged.

Policy #1 Onsite sewage disposal problem areas shall be considered and incorporated into the sewer service area planning process.

Policy #2 Onsite sewage disposal treatment alternatives shall be considered and incorporated into the sewer service area planning process.

Policy #3 Development should only be permitted in those areas where safe onsite sewage disposal systems and private wells meeting current groundwater standards can be accommodated.

INTRODUCTION

To meet its sewer service area planning responsibilities, the Brown County Planning Commission has undertaken this effort to update and refine the sewer service areas and environmentally sensitive areas within the County sewage plan.

Both the Wisconsin Department of Natural Resources and the Brown County Planning Commission recognize that the conditions and factors upon which such plans are based can and do change over time and, therefore, recommend that these plans be reviewed and, if necessary, revised every five years. Both agencies also recognize the importance of local input into this planning process and recommend that any revisions of the plan properly reflect local, as well as areawide, planning and development objectives. By adhering to such a process, it is believed that conflicts regarding public sanitary sewer extensions can be minimized and the development of the County can proceed in a smooth and efficient manner.

It must also be noted that Wisconsin Administrative Code requires that all public and private sewer extensions be in conformance with the adopted sewer service area plan and that this plan be consistent with and become a part of the Areawide Water Quality Management Plan prepared by the DNR.

Thus, the Brown County Planning Commission has undertaken this effort to update and revise the County sewage plan to extend its planning horizon to the year 2020 to reflect recent state, county, and local planning and environmental initiatives and to incorporate local and regional planning and development objectives.

SEWER SERVICE AREA METHODOLOGY

The process used to update and refine the sewer service areas within the planning area involved an analysis of future sewer service area needs, as well as an analysis of the means to address those needs in a cost-effective, environmentally-sound, and socially-responsible manner.

Forecasts for future sewer service area needs were based upon a combination of factors and included:

- Population and employment projections.
- Local and regional development trends.
- Local and county comprehensive plans.
- Local zoning.
- Household sizes.
- Residential density.
- Provision of public water.

These factors were incorporated into a formula which was devised to calculate the amount of vacant developable land needed by each community for its projected sewered growth and development (see Tables 7 and 8). It is the intent of the *2002 Brown County Sewage Plan* to ensure that the amount of vacant developable land specified in Table 8 is always available to the community. Therefore, as sewered development proceeds within the community and the supply of vacant developable land falls below the amount provided for by this plan, amendments can be requested by the community to replace its SSA acreage. These amendments must be submitted to the Brown County Planning Commission and DNR for review and approval. But, the BCPC shall always approve such amendments as long as conformance is maintained with the applicable goals, objectives, policies, and practices set forth in this County sewage plan and, in particular, the population projection acreage allocation formula. In addition, those communities which currently exceed this population projection acreage allocation formula because of policies or decisions of similar previous comprehensive updates shall be allowed to continue to use their current SSA size in their determination of vacant developable land needs. However, the Brown County Planning Commission strongly discourages and may deny any amendment undertaken in a scattered or haphazard manner. It is the intent of this practice to minimize ad hoc amendments and to encourage long-range comprehensive sewer service area planning.

Table 7
Residential Sewer Service Area Calculations: 2000-2020

Sewer Service Area	Population Projection 2020 (Interim)	Population Count 2000	Incremental Population	Sewered Development Ratio (1997-2001)	Sewered Population Allocation	Persons per Household (projected)	Occupied Sewered Households	Vacancy Rate	Total Sewered Households	Housing Units per Acre	Net Residential Acreage
Allouez	16,107	15,443	664	1.00	664.00	1.94	342.27	1.03	352.54	2.50	141.01
Ashwaubenon******	19,634	17,634	2,000	1.00	2,000.00	2.28	877.19	1.03	903.51	2.50	361.40
Bayshore*							-	-	-	2.50	-
Bellevue	18,229	11,828	6,401	0.98	6,272.98	2.14	2,931.30	1.03	3,019.24	2.50	1,207.70
Denmark	2,396	1,958	438	1.00	438.00	2.24	195.54	1.03	201.40	2.50	80.56
De Pere	25,595	20,559	5,036	1.00	5,036.00	2.04	2,468.63	1.03	2,542.69	2.50	1,017.07
Dyckesville**	3,974	3,248	726	0.23	166.98	2.43	68.72	1.03	70.78	2.50	28.31
Green Bay	110,313	102,313	8,000	1.00	8,000.00	2.22	3,603.60	1.03	3,711.71	2.50	1,484.68
Hobart	6,435	5,090	1,345	0.72	968.40	2.34	413.85	1.03	426.26	2.50	170.50
Holland	1,409	1,339	70	0.72	50.40	2.45	20.57	1.03	21.19	2.50	8.48
Howard	19,005	13,546	5,459	0.98	5,349.82	2.02	2,648.43	1.03	2,727.88	2.50	1,091.15
Lawrence******	2,652	1,548	1,104	0.75	828.00	2.40	345.00	1.03	355.35	2.50	142.14
Ledgeview*****	5,183	3,363	1,820	0.90	1,638.00	2.16	758.33	1.03	781.08	2.50	312.43
Morrison	1,762	1,651	111	0.23	25.53	2.50	10.21	1.03	10.52	2.50	4.21
New Franken (Humboldt)	1,364	1,338	26	0.43	11.18	2.37	4.72	1.03	4.86	2.50	1.94
Oneida***							-	-	-	2.50	-
Pittsfield	2,769	2,433	336	0.25	84.00	2.42	34.71	1.03	35.75	2.50	14.30
Pulaski	4,068	3,013	1,055	1.00	1,055.00	2.40	439.58	1.03	452.77	2.50	181.11
Rockland	2,144	1,522	622	-	-	2.67	-	1.03	-	2.50	-
Royal Scot*					-		-	-	-	2.50	-
Scott	5,606	3,712	1,894	0.87	1,647.78	2.35	701.18	1.03	722.22	2.50	288.89
Suamico*****	13,387	8,686	4,701	0.75	3,525.75	2.49	1,415.96	1.03	1,458.44	2.50	583.38
Wrightstown****	2,737	1,934	803	0.97	778.91	2.29	340.14	1.03	350.34	2.50	140.14
Wrightstown #1 & #2	2,336	2,013	323	0.09	29.07	2.48	11.72	1.03	12.07	2.50	4.83
TOTAL	267,105	224,171	42,934		38,569.80		17,631.65		18,160.60		7,264.23

* These SSAs have been combined with the Scott SSA for acreage calculation purposes in the 1996 and 2002 plans.

** The Dyckesville SSA includes both the Town of Green Bay and Town of Red River.

*** The Oneida SSA residential sewer service area was not calculated in the 1996 and 2002 plans. The boundary was determined by contract between the Oneida Tribe of Indians and the GBMSD.

**** The Wrightstown SSA calculations do not include Outagamie County.

***** The Ledgeview SSA sewered development ratio has been changed from an actual 47% to 90% based upon the Town's commitment to provide public sewer to existing residential subdivisions.

****** Village of Ashwaubenon and Town of Lawrence jointly agreed to swap sewer population from the Village to the Town.

Once the sewer service area acreage allocation was calculated (see Appendices C and D), the currently approved sewer service area boundaries were revised according to the following guidelines:

- Initial refinement and update of the sewer service areas were accomplished by the affected local communities, in consultation with the Brown County Planning Commission staff, based upon review of their local plans and development trends.
- Current and updated sewer service area boundaries were further refined by the Brown County Planning Commission staff to more accurately reflect existing property boundaries and physical features.
- Areas of existing development, ESAs, and lands zoned conservancy, when located within an SSA, were not counted toward the SSA acreage allocation.
- Illogical or inefficient sewer service area boundaries (defined as holes, islands, or narrow linear extensions of SSA) were resolved by the Brown County Planning Commission staff.

While a community's sewer service area can include less than its specified amount of vacant developable land, it generally cannot exceed that amount. Special exceptions to this practice include:

- Inclusion of additional vacant developable land to a one-lot depth (approximately 250 feet) along one side of the route of a sanitary sewer located within or immediately adjacent to a road right-of-way when such sewer and road forms the outer limits of a compact and contiguous SSA.
- Inclusion of additional vacant developable land to a one-lot depth (approximately 250 feet) along both sides of the route of a sanitary sewer located within or immediately adjacent to a road right-of-way when such sewer and road is located within an area with numerous existing and failing onsite sewage disposal systems which are to be served by the proposed sanitary sewer.
- Inclusion of additional vacant developable land for limited infill purposes in areas of widespread failing onsite sewage disposal systems.
- Inclusion of additional vacant developable land when such land has been zoned or otherwise officially designated to prohibit any further sewered development (conservancy lands, abandoned landfills, etc.).

<u>Relationship to Facility Planning, WWTP and Sewerage System Design Capacities, and WPDES Permit Conditions</u>

Once the refined sewer service area was determined, the impact of eventual development of that area upon the existing and planned tributary sewerage system was reviewed. In general, a sewer service area may not be so sized or located that it would cause the tributary sewage treatment facility or its major components to exceed their design or permit, influent or effluent, flows or loadings within the planning horizon of this plan.

It is intended that this standard will be implemented on an ongoing basis by the DNR during its review and approval of facility plans. The DNR and the BCPC will also implement this standard during the sewer service area update and amendment process.

TABLE 8

Sewer Service Area Acreage Allocation Formula

Sewer Service Area	Total Year 2000							Incremental Year 2020							Future Net SSA Lands	Market Flexibility Factor	Future Gross SSA Lands	Current Gross SSA Lands
	Res Lands	Com Lands Ratio	Ind Lands Ratio	Trans Lands Ratio	Com/Util Lands Ratio	Insti/Gov Lands Ratio	Rec Lands Ratio	Res Lands	Com Lands	Ind Lands	Trans Lands	Com/Util Lands	Insti/Gov Lands	Rec Lands				
Allouez	1,432	0.074	0.003	0.419	0.003	0.22	0.16	141	10	0	59	0	31	23	265	0.75	464	111
Ashwaubenon	1,720	0.714	0.464	0.281	0.038	0.144	0.195	361	258	168	101	14	52	70	1024	0.75	1,792	1,172
Bayshore*									0	0	0	0	0	0	0	0.75	-	
Bellevue	1,487	0.202	0.103	0.679	0.014	0.039	0.044	1208	244	124	820	17	47	53	2514	0.75	4,400	2,897
Denmark	219	0.123	0.251	0.735	0.119	0.265	0.233	81	10	20	60	10	21	19	221	0.75	387	564
De Pere	1,974	0.151	0.386	0.554	0.032	0.159	0.147	1017	154	393	563	33	162	149	2470	0.75	4,323	1,534
Dyckesville**	159	0.085	0.012	0.055	0.001	0	0.606	28	2	0	2	0	0	17	49	0.75	86	512
Green Bay	7279	0.245	0.197	0.11	0.114	0.204	0.352	1485	364	293	163	169	303	523	3300	0.75	5,775	5,285
Hobart	931	0.039	0.165	0.82	0.001	0.025	0.36	171	7	28	140	0	4	62	412	0.75	721	1,015 ~
Holland	67	0.149	0.119	0.522	0.015	0.119	0.373	8	1	1	4	0	1	3	18	0.75	32	99
Howard	1,756	0.288	0.323	0.533	0.024	0.138	0.184	1091	314	352	582	26	151	201	2717	0.75	4,755	1,682
Lawrence	287	0.188	0.366	0.56	0	0.014	0	142	27	52	80	0	2	0	302	0.75	529	268
Ledgeview	475	0.147	0.166	0.411	0.013	0.099	0.029	312	46	52	128	4	31	9	582	0.75	1,019	525
Morrison	79	0.204	0.038	0.544	0.013	0.304	0.127	4	1	0	2	0	1	1	9	0.75	16	144
New Franken (Humboldt)	87	0.041	0.075	0.183	0.006	0.101	0.012	2	0	0	0	0	0	0	3	0.75	5	247
Oneida***									0	0	0	0	0	0	0	0.75	-	700
Pittsfield	103	0	0.214	0.252	0.019	0.078	0.049	14	0	3	4	0	1	1	23	0.75	40	54
Pulaski	356	0.154	0.385	0.458	0.048	0.253	0.18	181	28	70	83	9	46	33	449	0.75	786	487
Rockland									0	0	0	0	0	0	0	0.75	-	909
Royal Scot*									0	0	0	0	0	0	0	0.75	-	
Scott	272	0.074	0.066	0.581	0.004	0.143	0.015	289	21	19	168	1	41	4	544	0.75	952	895
Suamico	1245	0.018	0.071	0.398	0	0.114	0.056	583	10	41	232	0	66	33	966	0.75	1,691	762
Wrightstown****	261	0.092	0.103	0.51	0.019	0.215	0.211	248	23	26	126	5	53	52	533	0.75	933	481
Wrightstown #1 & #2	107	0.06	0.04	0.87	0.02	0.06	0.24	5	0	0	4	0	0	1	11	0.75	19	224
TOTAL	20,296							7371	1520	1643	3322	288	1015	1253	16411		28,725	20,567

*These SSAs have been combined with the Scott SSA for acreage calculation purposes in the 1995 and 2002 plans.

**The Dyckesville SSA includes both the Town of Green Bay and the Town of Red River.

***The Oneida SSA acreage allocation was not calculated. The SSA boundary was set by contract between the Oneida Tribe of Indians and the GBMSD.

****The Wrightstown SSA acreage allocation includes an estimated 108 acres of residential lands in Outagamie County.

~ Includes Oneida trust lands and airport property (not included as developable land within the refined SSA).

Loading and other permit compliance problems associated with operation and maintenance of a WWTP will be considered in the sanitary sewer extension review and approval process.[16]

When flows or loadings from current and projected development within the SSA reach 100 percent of the design capacity of the sewage treatment facility, interceptor sewer, or lift station, the applicable SSA update or amendment shall not be approved unless the owner of the sewage treatment facility and/or sewer collection system passes a resolution indicating its intention to undertake a facility plan to address the provision of capacity for the proposed increase of sewage flow and load. The resolution shall also indicate the timetable for preparation and implementation of the facility plan in light of existing and planned development trends within the subject community. Should such local development trends indicate that the applicable design capacity would be exceeded within five years, the facility plan must be initiated immediately.

When current flows or loadings reach 80 percent of the design capacity of the sewage treatment facility, major interceptor sewer, or lift station, the applicable SSA update or amendment shall not be approved unless the owner of the sewage treatment facility and/or sewer collection system passes a resolution indicating its intention to undertake a facility plan to address the provision of capacity for the proposed increase of sewage flow and load. The resolution shall also indicate the timetable for preparation and implementation of the facility plan in light of existing and planned development trends within the subject community. The resolution and timetable shall state that the facility plan will be initiated when or before flows or loadings reach 90 percent of the applicable design capacity.

When current flows or loadings exceed 90 percent of the design capacity of the sewage treatment facility, major interceptor sewer, or lift station, the applicable SSA update or amendment shall not be approved unless the owner of the sewage treatment facility and/or sewer collection system has completed an appropriate facility plan, received DNR approval of that plan, and commenced implementation of the plan or prepared a construction schedule (to be determined by the DNR).

Each of these scenarios may be reviewed and reconsidered by the DNR or the BCPC on a case-by-case basis. Grounds for such reconsideration may include past facility planning efforts, local development trends, and/or the severity or immediacy of the potential problem(s). Under such situations, the required studies and analyses may be waived or changed.

The design flows and loadings to be addressed under this standard are set forth in Appendix E. It is herein requested that the sewage treatment plant owners and collection system owners maintain this information. Information on current flows and loadings can

[16] In the interest of expediting the timely update of the County sewage plan set forth in this report, this policy may be deferred. However, future sewer service area updates or amendments or sanitary sewer extensions to newly identified SSA lands set forth in this plan will not be approved by the BCPC until such time as this policy and its requirements are satisfactorily addressed.

be obtained from each treatment facility's CMAR and should include data for the minimum period consisting of the prior 12 months. Information on future flows and loadings can be obtained from applicable sanitary sewer extension submittal forms or from the local community. Where not available, such information should be determined based upon the land uses and densities set forth in the community's local comprehensive plan and upon commonly accepted wastewater flow contribution rates. Information on local development trends should be obtained from the community's local comprehensive plan.

The applicant shall provide this information to the BCPC at the time of the subject SSA update or amendment. Failure to provide this information may be grounds for denial of the SSA change. A summary of this information, as well as information demonstrating that the subject WWTP is currently and, with inclusion of the subject area, will remain in conformance with its WPDES permit effluent limits, must also be provided to the BCPC at the time of the subject SSA update or amendment. This summary must include a letter signed by the owner of the WWTP indicating that the WWTP has maintained compliance with all permit limits for the previous 12-month period and, if not, why such permit limits have not been met, what corrective actions are being taken, and what effect, if any, the subject SSA amendment may have upon the permit violations. The summary shall also include a table setting forth effluent data and documentation of compliance with all permit limits. The table should also note the specific permit limits.

2020 Sewer Service Area Delineation

The final SSA delineation was determined by distributing the gross acreage allocation calculated in Appendix C for each sewer service area in accordance with the guidelines noted earlier in this chapter.[17] As indicated in Table 9, approximately 18,100 acres of land were added to the SSAs within the planning area, an increase of about 23 percent. The largest changes were in the City of De Pere, Villages of Bellevue and Howard, and the Towns of Lawrence, Ledgeview, and Suamico. As indicated in Table 9, about 7,700 acres of vacant developable land were added to the SSAs within the planning area, an

[17] As set forth in a correspondence/memorandum dated August 4, 1998, from Mr. Al Shea to Mr. Charles Verhoeven (both of the Wisconsin Department of Natural Resources), the Wisconsin Department of Natural Resources has recently determined that BCPC and DNR jurisdiction does apply to the Oneida Tribe of Indians of Wisconsin if the subject area is outside of the Oneida reservation and is not in trust or, if within the reservation, is neither in trust nor owned by the tribe or a tribal member. However, if the subject area is in trust or is owned by the tribe or a tribal member and is located within the reservation, BCPC and DNR jurisdiction does not apply. In such instances, BCPC and DNR jurisdiction would apply only if the owner/operator of the concerned sewerage system required such state and county oversight in its service agreement with the Oneida Tribe of Indians of Wisconsin.

Table 9
Sewer Service Area Acreage Comparison

	Total Gross Sewer Service Area Acreage Comparison				Total Vacant Developable Sewer Service Area Acreage Comparison			
Sewer Service Area	Future Gross SSA Lands	Current Gross SSA Lands	Additional SSA Acreage	Percent Change	Future Gross SSA Lands	Current Gross SSA Lands	Additional SSA Acreage	Percent Change
Allouez	3,314	3,314	0	0%	111	111	0	0%
Ashwaubenon	8,441	7,931	510	6%	1,535	1,172	363	31%
Bellevue	9,086	6,163	2,923	47%	4,247	2,897	1,350	47%
Denmark	1,138	1,253	-115	-9%	481	564	-83	-15%
De Pere	7,968	6,569	1399	21%	2,500	1,534	966	63%
Dyckesville	1,327	1,313	14	1%	520	512	8	2%
Green Bay	28,784	28,536	248	1%	5,825 *	5,285	540	10%
Hobart	3,612	3,378	234	7%	721 *	1,015	-294	-29%
Holland	328	243	85	35%	117	99	18	18%
Howard	13,905	7,168	6,737	94%	4,159	1,682	2,477	147%
Lawrence	2,040 **	1,004	1,036	103%	781 **	268	513	191%
Ledgeview	4,322	1,643	2,679	163%	1,037	525	512	98%
Morrison	401	380	21	6%	162	144	18	13%
New Franken (Humboldt)	447	486	-39	-8%	214	247	-33	-13%
Pittsfield	273	265	8	3%	56	54	2	4%
Pulaski	1,921	1,462	459	31%	802	487	315	65%
Scott	2,437	2,315	122	5%	1,002	895	107	12%
Suamico	5,193	3,281	1,912	58%	1,819	762	1,057	139%
Wrightstown	1,209	1,209	0	0%	499	481	18	4%
Wrightstown #1 & #2	424	536	-112	-21%	139	224	-85	-40%
TOTAL	96,570	78,449	18,121	23%	26,727	18,958	7,769	41%

* Does not include vacant developable Oneida Trust lands.
** Approximately 240 acres of gross SSA lands were swapped from Ashwaubenon to Lawrence.

increase of 41 percent. The largest changes were within the Villages of Bellevue and Howard and the Town of Suamico. As indicated in Tables 10, 11, and 12, sewered population within the planning area would increase by 42,357 people or 21 percent. The largest changes were in the Cities of De Pere and Green Bay, the Villages of Bellevue and Howard, and the Town of Suamico.

When developing the sewer service area boundaries, environmental protection, and cost-effective provision of urban services were key considerations for providing compact, easily serviced growth. Those undeveloped areas immediately adjacent to existing sewered development were assumed to develop first. As the distance from the developed area increased, the priority for new growth decreased. The delineated sewer service area represents the area that should be sufficient to accommodate the projected normal growth for the next 20 years, with some margin for allowing market conditions to operate. Unforeseen types and amounts of development are covered under the amendment section.

It should be noted that, with the *2002 Brown County Sewage Plan*, locally adopted comprehensive plans are formally acknowledged and considered in the sewer service area update process for the first time. Although this consideration is currently limited to alternative methods of calculating the sewered development ratio and the future ratio of land uses within the updated sewer service areas, the Brown County Planning Commission envisions that the relationships with local comprehensive plans (particularly Smart Growth comprehensive plans) will expand in future updates of the county sewage plan.

Designated Management Areas

As shown on Maps 4 and 5, and indicated in Table 13, the distinction between sewer services areas is based upon the ownership of the tributary sanitary sewer system. As such, only communities with existing sewer systems were allocated sewer service area.

Unique situations and unanticipated conflicts between communities in regard to sewer service area planning issues shall be resolved by the Brown County Planning Commission and the Wisconsin Department of Natural Resources in accordance with all applicable laws and regulations and the goals, objectives, and policies of this plan. However, it is the belief of both the Brown County Planning Commission and the Wisconsin Department of Natural Resources that such situations and conflicts are best resolved with the full support and concurrence of all affected local units of government.

To that end, should conflicts arise between communities in regard to sewer service area planning issues, every attempt will be undertaken by the Brown County Planning Commission to encourage and support the efforts of the affected local units of government to first resolve the situation by themselves.

Of particular and most immediate concern in this regard is the possibility that communities may wish to expand their sewer service area to the same location as another adjacent community. In accordance with the above statements, the Brown County

Table 10
Estimated Population Tributary to the Green Bay Metropolitan Sewerage District Wastewater Treatment Plant

Community	2000			2020		
	Sewered	Non-sewered	Total	Sewered	Non-sewered	Total
City of De Pere (portion)	500	0	500	500	0	500
City of Green Bay (all)	102,013	300	102,313	110,313	0	110,313
Village of Allouez (all)	15,443	0	15,443	16,107	0	16,107
Village of Ashwaubenon (portion)[1]	4,040	0	4,040	4,040	0	4,040
Village of Bellevue (all)	11,328	500	11,828	18,229	0	18,229
Village of Hobart (portion)[3,4]	1,971	2,269	4,240	2,939	2,646	5,585
Village of Howard (all)	12,889	657	13,546	19,005	0	19,005
Village of Pulaski (all)	3,013	0	3,013	4,068	0	4,068
Town of Green Bay (all)[2]	362	1,410	1,772	509	1,900	2,409
Town of Humboldt (portion)[5,6]	90	230	320	110	240	350
Town of Pittsfield (all)[7]	300	2,133	2,433	384	2,385	2,769
Town of Red River (portion)[8]	265	320	585	285	335	620
Town of Scott (all)[9]	2,712	1,000	3,712	4,360	1,246	5,606
Total	154,926	8,819	163,745	180,849	8,752	189,601

[1]It is assumed that future growth within Ashwaubenon will be tributary to the De Pere WWTP.
[2]It is assumed that 23 percent of future growth within the Town of Green Bay will be sewered.
[3]It is assumed that 72 percent of future growth within the Village of Hobart will be sewered.
[4]It is assumed that future growth within the Village of Hobart will be tributary to the GBMSD WWTP.
[5]The Town of Humboldt includes the portions of the New Franken Sanitary District within the Towns of Green Bay and Scott.
[6]Future sewered and unsewered growth in the Town of Humboldt was estimated by the BCPC.
[7]It is assumed that 25 percent of future growth within the Town of Pittsfield will be sewered.
[8]Future sewered and unsewered growth within the Town of Red River was estimated by the BCPC.
[9]It is assumed that 87 percent of future growth within the Town of Scott will be sewered.

Table 11
Estimated Population Tributary to the City of De Pere Wastewater Treatment Plant

Community	2000			2020		
	Sewered	Non-sewered	Total	Sewered	Non-sewered	Total
City of De Pere (portion)	20,059	0	20,059	25,095	0	25,095
Village of Ashwaubenon (portion)	13,594	0	13,594	16,217	0	16,217
Village of Hobart (portion)[1]	850	0	850	850	0	850
Town of Lawrence (all)[2]	400	1,148	1,548	625	1,404	2,029
Town of Ledgeview (all)[3]	2,006	1,357	3,363	3,644	1,539	5,183
Town of Oneida (portion)[4]	543	0	543	543	0	543
Total	36,909	2,505	39,414	46,974	2,943	49,917

[1]It is assumed that future growth within the Village of Hobart will be tributary to the GBMSD WWTP.

[2]It is assumed that 51 percent of future growth within the Town of Lawrence will be sewered.

[3]It is assumed that 90 percent of future growth within the Town of Ledgeview will be sewered.

[4]Sewered information for the Town of Oneida was not available.

Existing and future sewered growth was assumed by BCPC to match the existing SSA, which was not envisioned to change.

Table 12
Estimated Population Tributary to Other Publicly-Owned Wastewater Treatment Plants in the Planning Area

Community	2000			2020		
	Sewered	Non-sewered	Total	Sewered	Non-sewered	Total
Village of Denmark (all)	1,958	0	1,958	2,396	0	2,396
Village of Wrightstown (all)[1]	1,876	58	1,934	3,724	82	3,806
Town of Holland (portion)[2]	400	0	400	450	0	450
Town of Morrison (portion)[3]	400	0	400	426	0	426
Town of Suamico (portion)[4]	3,373	452	3,825	7,351	0	7,351
Town of Wrightstown #1 & #2 (portion)[5]	628	0	628	657	0	657
Total	8,635	510	9,145	15,004	82	15,086

[1]It is assumed that 97 percent of future growth within the Village of Wrightstown will be sewered.

[2]It is assumed that 72 percent of future growth within the Town of Holland will be sewered.

[3]It is assumed that 23 percent of future growth within the Town of Morrison will be sewered.

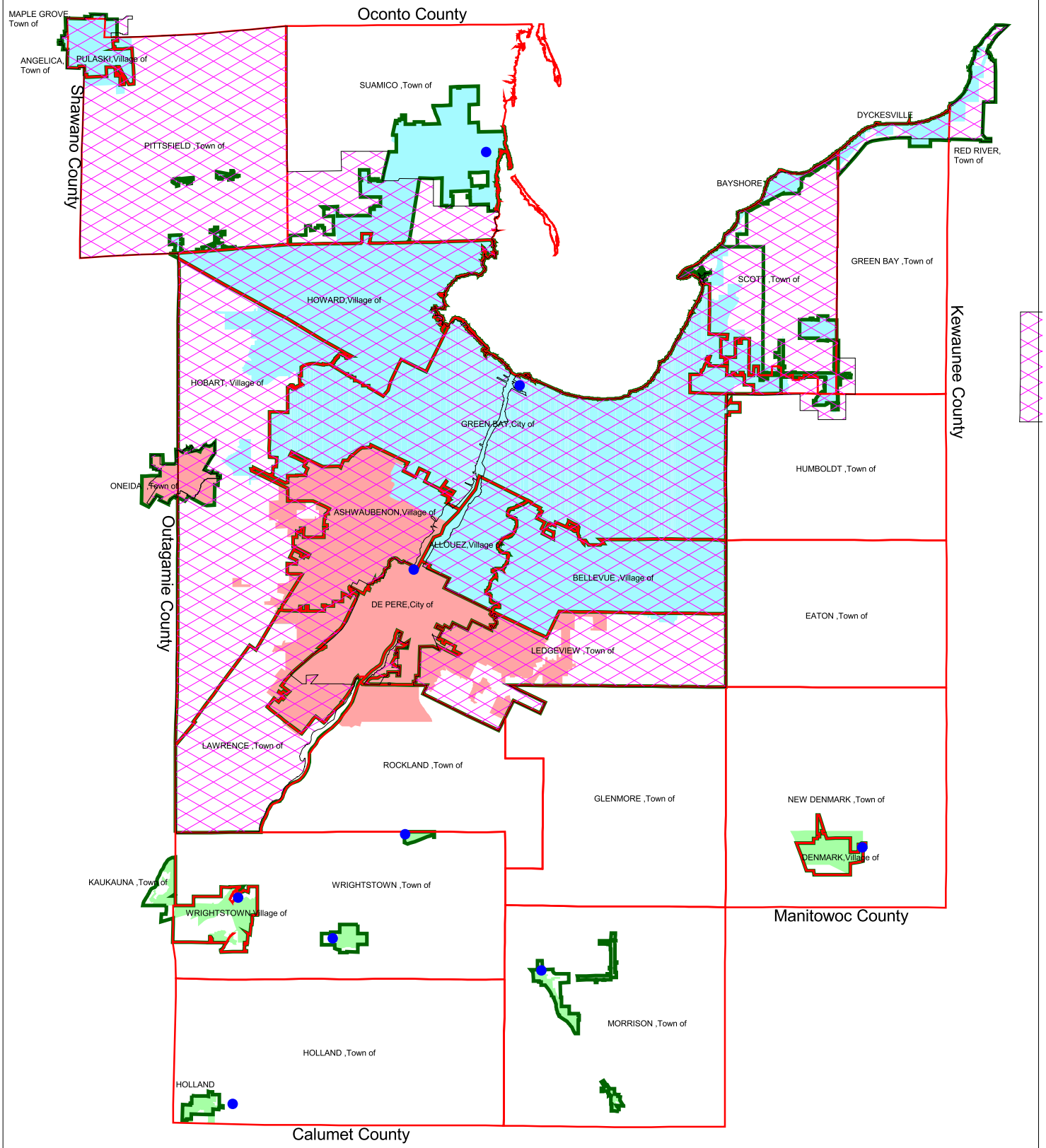
[4]It is assumed that 75 percent of future growth within the Town of Suamico will be sewered.

[5]It is assumed that 9 percent of future growth within the Town of Wrightstown will be sewered.

Table 13

Ownership of Sewage Treatment Facilities by Sewer Service Area

Sewer Service Area	Local Components	Regional Components	WWTP
Allouez	Allouez	GBMSD	GBMSD
Ashwaubenon	Ashwaubenon	GBMSD	GBMSD (part) and De Pere (part)
Bellevue	Bellevue	GBMSD	GBMSD
Denmark	Denmark	Denmark	Denmark
De Pere	De Pere	De Pere	De Pere
Dyckesville	Dyckesville San. Dist.	GBMSD	GBMSD
Green Bay	Green Bay	GBMSD	GBMSD
Hobart	Hobart	GBMSD	GBMSD (part) and De Pere (part)
Holland	Holland San. Dist.	Holland San. Dist.	Holland San. Dist.
Howard	Howard	GBMSD	GBMSD
Lawrence	Lawrence	GBMSD	De Pere
Ledgeview	Ledgeview San. Dist.	GBMSD	De Pere
Morrison/Wayside	Morrison San. Dist.	Morrison San. Dist.	Morrison San. Dist.
New Franken	New Franken San. Dist.	GBMSD	GBMSD
Oneida	Oneida	GBMSD	GBMSD
Pittsfield	Pittsfield San. Dist.	GBMSD	GBMSD
Pulaski	Pulaski	GBMSD	GBMSD
Scott	Scott San. Dist., Bayshore San. Dist., Royal Scot San. Dist.	GBMSD	GBMSD
Suamico	Suamico San. Dist.	Suamico San. Dist.	Suamico San. Dist.
Wrightstown	Wrightstown	Wrightstown	Wrightstown
Wrightstown #1 and #2	Wrightstown San. Dist. #1 and Wrightstown San. Dist. #2	Wrightstown San. Dist. #1 and Wrightstown San. Dist. #2	Wrightstown San. Dist. #1 and Wrightstown San. Dist. #2



1 0 1 2 Miles

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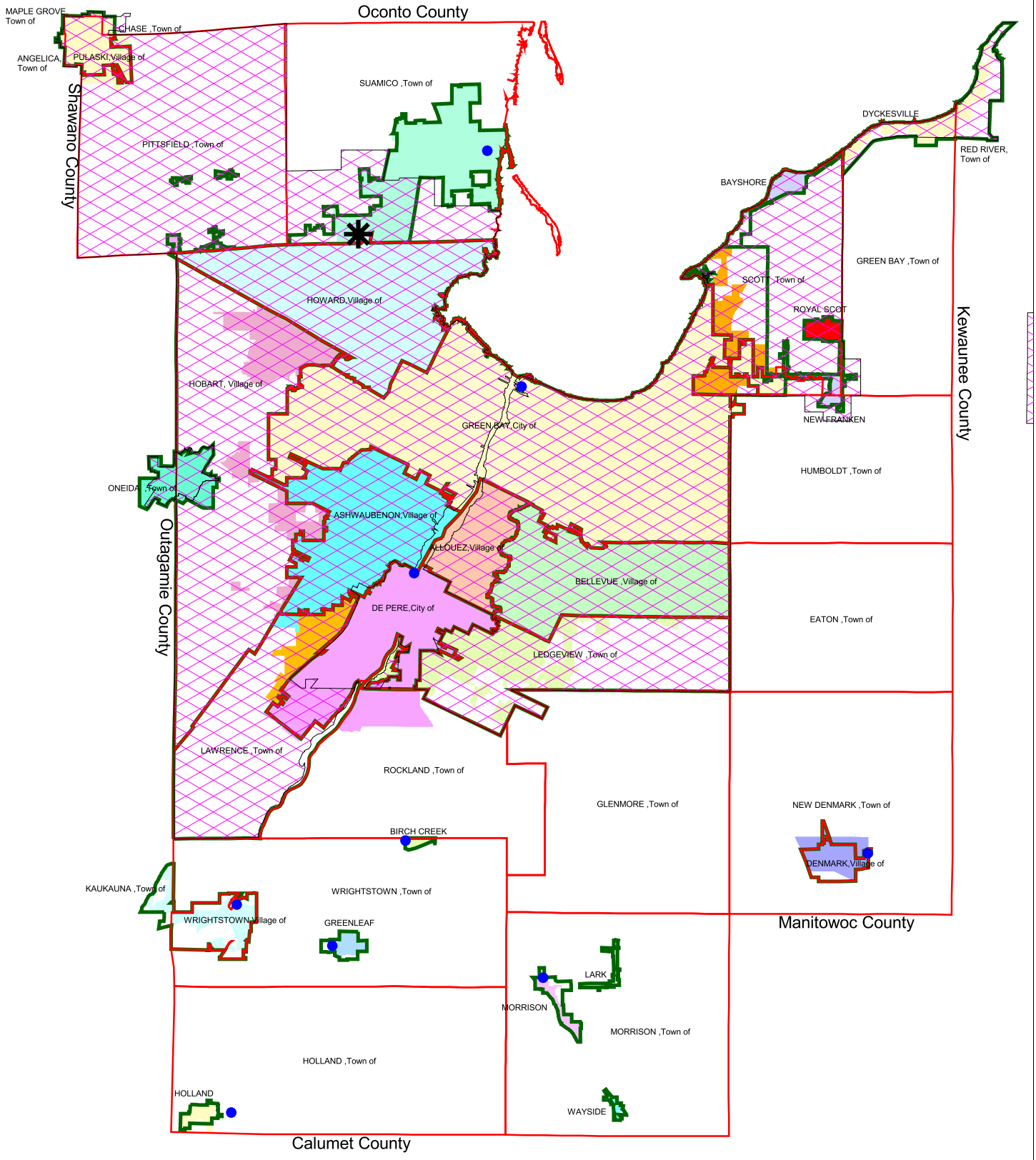
2002 Brown County Sewage Plan

Map 4. Year 2020 Sewer Service Areas

- Sanitary District Boundary
- Green Bay Metropolitan Sewage District Service Area
- DePere Treatment Area
- Green Bay Treatment Area
- Locally Treated
- Wastewater Treatment Plant

Brown County Established 1818

Brown County Planning Commission



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2002 Brown County Sewage Plan

Map 5. Designated Management Areas

- Sanitary District Boundary
- Green Bay Metropolitan Sewage District Service Area
- Wastewater Treatment Plant
- Area of Town of Suamico served by the Village of Howard per intergovernmental agreement

Brown County Established 1818

Brown County Planning Commission

Planning Commission would request that such conflicts be immediately resolved by the affected communities through the use of boundary, shared services, or other similar intergovernmental agreements. During that process, the subject area would not be included within any SSA.

If at least one of the affected communities states that such an agreement would not be feasible, the Brown County Planning Commission would first undertake a preliminary review of the status of facility planning and designated management area status within the subject area to determine if a sewer service area boundary determination could be made.

- Should the subject area be located within a city, village, sanitary district, or utility district and all other applicable state and county rules and regulations be met, including the goals, objectives, and policies of this county sewage plan, the requested sewer service area would be allocated to the city, village, sanitary district, or utility district within which the subject area resides. The subject city, village, sanitary district, or utility district could then proceed with a sewer service area amendment.
- Should the subject area be located within an approved sewer service area and all other applicable state and county rules and regulations be met, including the goals, objectives, and policies of this county sewage plan, the requested sewer service area would remain allocated to the community which had originally identified and received approval of the sewer service area. No amendment would be necessary unless the area is annexed by a different city, village, sanitary district, or utility district.
- In most other instances, the Brown County Planning Commission would request that the affected communities enter into a formal negotiation/mediation process for settlement of the contested issues.
- Should the subject area be located in a sanitary district or utility district and outside of the existing municipal boundary of the requesting municipality and the sanitary district or utility district in which the subject area resides objects to the SSA amendment request, the SSA request would not be reviewed by the Brown County Planning Commission until the requesting municipality obtains jurisdiction of the subject area either through annexation or inter-municipal agreement.

The extent of the subject area for negotiation purposes would be determined by the affected communities' respective sewer service area acreage allocations.

If at least one of the affected communities states that a boundary, shared services, or other similar intergovernmental agreement cannot be reached after attempting a formal and documented negotiation/mediation process, and at least one of the parties continues to proceed with an SSA amendment request, the Brown County Planning Commission would proceed with the sewer service area amendment review.

In that event, the Brown County Planning Commission would have the option to recommend denial of the SSA amendment request until the affected communities reached an agreement. This recommendation would then be forwarded to the Wisconsin Department of Natural Resources for review and consideration.

The Brown County Planning Commission would also have the option to resolve the dispute based upon guidance contained within approved facility plans, Wisconsin Administrative Code NR 121 and the goals, objectives, and policies contained within this plan. Particular emphasis would be placed upon cost-effectiveness and environmental protection considerations. In that instance, the affected communities would be encouraged to provide information pertaining to an evaluation of alternatives in regard to which community could and would extend sewer service to the subject area, how and when such service would be provided, the cost of such service, and its environmental impacts. The Brown County Planning Commission would then forward a recommendation based upon this information to the Wisconsin Department of Natural Resources for review and consideration.

Sewer Service Area Maps

Map 4 and Map 5 depict the delineated sewer service areas for Brown County for the year 2020. The boundaries shown on the map represent the outer extent of the projected sewered area. Environmentally sensitive areas noted on Map 6 are not available for sewered development. Location of an area within the 2020 SSA does not necessarily mean that sewer service is immediately available. That is the decision of the local unit of government and the operator of the wastewater treatment system. The Brown County Planning Commission will, however, notify adjacent communities of planned changes to SSAs and major interceptor sewers to provide those communities an opportunity to review such changes.

It can also be noted that a Memorandum of Understanding between the Wisconsin Department of Natural Resources, the Bay Lake Regional Planning Commission, and the Brown County Planning Commission and a second similar Memorandum of Understanding between the Wisconsin Department of Natural Resources, the East Central Wisconsin Regional Planning Commission, and the Brown County Planning Commission have been approved.

The *2002 Brown County Sewage Plan* also sets forth a process where changes within or between sewer service areas will be addressed more expeditiously. Specifically, while formal amendments will always be necessary when any change is proposed to an SSA, a streamlined process will be implemented when SSA lands are envisioned to be transferred from one adjacent SSA to another and the affected local units of government concur with the proposed change. The streamlined approach would essentially be the same as other amendments in that a staff report would be prepared, a public hearing held, and formal review and consideration required by the BCPC and the DNR. However, differences would include:

- A shortened review period (the amount to be determined by staff on a case-by-case basis).
- Suspension of the amendment review fee.
- Elimination of the cost-effectiveness, ESA impacts, and erosion control and stormwater management analyses (as the subject area is already within an SSA).
- Less detailed information regarding the remaining amendment criteria (to be

determined by staff on a case-by-case basis).

All such SSA revisions must be in conformance with the goal, objectives, and policies of this plan, as well as with the tributary sewerage system impacts analysis, SSA acreage allocation analysis, and sewer service area boundary revision requirements of the County sewage plan.

The year 2020 boundaries on Map 4 and Map 5 are drawn as near to scale as possible. Generally, the sewer service area boundaries are drawn to follow quarter section lines, property ownership lines, the centerline of streams and roads, or a one-lot depth (typically 250') on the outer side of roads. As previously noted, provision of additional sewer service area acreage to obtain such logically defined boundaries, when reasonable and justifiable, was considered where warranted. When also consistent with the urban service area identified within an adopted and implemented Smart Growth comprehensive plan, such additional acres will be permanently awarded to the sewer service area acreage allocation. The year 2020 sewer service areas, in addition to being delineated on Map 4 and Map 5, are also delineated on individual community maps at various scales housed within the BCPC office.

Finally, while this plan delineates the sewer service areas of Brown County and its immediate environs, it is understood that such areas may change over time for a variety of reasons. Thus, to accommodate reasonable and justifiable changes, this plan identifies procedures and criteria to be followed in addressing such changes. To facilitate the timely consideration of proposed sewer service area changes, a separate Amendment Application Manual has been prepared to address both major and minor SSA revisions. A summary of this process is set forth in Chapter 7.

Chapter 6

ENVIRONMENTALLY SENSITIVE AREAS

A required element of all sanitary sewer service area plans is the identification and protection of those lands that, if developed, could have a potential adverse water quality impact. Protection of such areas from sewered development is also an important step toward ensuring an environmentally-sound wastewater collection and treatment system. For purposes of this plan, an environmentally-sound wastewater collection and treatment system is one that complies with the following goals, objectives, and policies.

GOALS, OBJECTIVES, AND POLICIES

Goal #1 To restore and maintain the chemical, physical, and biological integrity of the waters of the U.S.[18] and the state.[19]

- Objective #1 The discharge of pollutants into waters of the U.S. and the state shall be eliminated.
- Objective #2 The discharge of toxic pollutants in toxic amounts shall be prohibited.
- Objective #3 The waters of the U.S. shall be improved for the protection and propagation of fish and aquatic life, wildlife, and recreation and for public water supply, agriculture, industry, and other purposes.
- Objective #4 Water quality levels that are fishable and swimmable shall be attained.
- Objective #5 Programs for the control of nonpoint sources of pollution shall be developed and implemented in an expeditious manner so as to enable the goals of the Clean Water Act to be met through the control of both point and nonpoint sources of pollution.

[18] Waters of the U.S. are defined as "all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters, including interstate wetlands; all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes, or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce, or which are used or could be used for industrial purpose by industries in interstate commerce; all impoundments of waters otherwise defined as waters of the United States under this definition; tributaries of waters identified above; the territorial seas; and wetlands adjacent to waters (other than waters that are themselves wetlands) identified above."

[19] Waters of the state are defined as "those portions of Lake Michigan and Lake Superior within the boundaries of this state, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems, and other surface water or groundwater, natural or artificial, public or private, within this state or its jurisdiction."

Policy #1 Best management practices and measures which will reduce pollutant loadings from nonpoint sources and which consider the impact of the practice upon both surface and groundwater quality shall be identified.

Policy #2 The Brown County Sewage Plan shall require the preparation of erosion control, stormwater management, and restoration plans for all development within or adjacent to environmentally sensitive area lands.

Policy #3 The Brown County Sewage Plan shall require the establishment of buffers around all important natural resource features.

Goal #2 To manage the quality of the waters of the U.S. and the state, both ground and surface, both public and private, including consideration of the relationship of water quality to land and water resources and uses.

Objective #1 Comprehensive programs for the prevention, reduction, and elimination of pollution of waters of the state shall be prepared.

Policy #1 The Brown County Sewage Plan shall be reviewed, updated, and revised as necessary to ensure continued protection and preservation of the waters of the U.S. and the state.

Policy #2 The Brown County Sewage Plan shall identify and control, to the greatest extent feasible, agriculture, silviculture, and construction-related nonpoint sources of pollution.

Objective #2 Major areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints are to be excluded from the sewer service area.

Objective #3 Areas to be considered for exclusion from the sewer service area because of the potential for adverse impacts on the quality of waters of the state from point or nonpoint sources of pollution shall include, but are not limited to, wetlands, shorelands, floodways, floodplains, steep slopes, highly erodible soils, and other limiting soil types, groundwater recharge areas, and other such areas.

Policy #1 Development of shorelands shall meet standards set forth in NR 115 and Chapters 10 and 22 of the Brown County Code to ensure the maintenance of safe and healthful conditions, the prevention and control of water pollution, the protection of spawning grounds for fish and aquatic life, the control of building sites, the placement of structures

and land uses, and the preservation of shore cover and natural beauty.

Policy #2 Development of floodplains shall meet standards set forth in NR 116 and Chapter 22 of the Brown County Code for appropriate floodplain districts. No unauthorized structure or fill shall be allowed to encroach upon and obstruct the flow of water in any stream channel or floodway.

Policy #3 All wetlands and their ecological functions shall be maintained unless documentation is provided that a wetland disturbance is unavoidable and appropriate mitigation will be provided and all pertinent approvals granted.

Objective #4 A consistent and concise environmentally sensitive area definition shall be established.

Policy #1 A clear and meaningful identification of environmentally sensitive areas shall be ensured.

Policy #2 Accurate, detailed, and up-to-date mapping of environmentally sensitive areas shall be provided.

Goal #3 To address water quality management issues in an economically-feasible and environmentally-sound manner.

Objective #1 The Brown County Sewage Plan shall set forth an environmentally sensitive area concept and definition, which encourages countywide applicability.

Objective #2 The use of environmentally sensitive areas for such mutually compatible uses as environmental protection, public recreation, and stormwater management shall be allowed and encouraged.

BACKGROUND

As noted in Chapter 1, the primary purpose of the Federal Clean Water Act is to protect the nation's lakes, rivers, aquifers, and coastal areas from pollution. Two goals of the Act are to eliminate the discharge of pollutants into the nation's waters and to achieve water quality levels that are fishable and swimmable. In pursuit of these goals, Section 208 of the Clean Water Act requires that all states prepare and implement regional water quality plans which, among other things, are intended to identify and control both point and nonpoint sources of pollution.

In Wisconsin, this continuing planning process has become the Department of Natural Resource's responsibility. In cooperation with regional planning commissions and local units of government, the DNR prepares and implements "water quality management plans." In 1974, in recognition of its need and importance, the Fox Valley area (which extends from Fond du Lac to Green Bay) was one of the first areas in the state designated for such planning.

With the creation of Administrative Code Chapter NR 121 (Areawide Water Quality Management Plans) in 1979, the Department of Natural Resources established the formal guidelines under which the water quality management planning process would be conducted in Wisconsin. That process included the requirement that each water quality management plan include the identification of "sewer service areas" and, within those areas, the identification of "major areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints." NR 121 also states that "areas to be considered for exclusion from the sewer service area because of the potential for adverse impacts on the quality of the waters of the state from both point and nonpoint sources of pollution include, but are not limited to, wetlands, shorelands, floodways and floodplains, steep slopes, highly erodible soils, and other limiting soil types, groundwater recharge areas, and other such physical constraints."

The Brown County Planning Commission first began to identify such areas in its 1982 County sewage plan and termed those areas environmental corridors. At that time, environmental corridors consisted of all navigable waters, all wetlands larger than five acres located within zoned shoreland areas, and certain large wetlands located outside zoned shoreland areas identified by the DNR. The environmental corridor definition was later revised in the 1987 County sewage plan to also include the floodways of all navigable waters.

As noted in Chapter 3, beginning in the 1980s, more accurate, detailed, and definitive water quality research was undertaken within Wisconsin. Such research not only identified the general status of water quality within Wisconsin but also began to identify the current trends, anticipated problems, and envisioned solutions associated with those water quality conditions. In addition, research from around the country indicated what many regulators and researchers had already suspected. Nonpoint source pollution was a growing problem, and to preserve and improve water quality, regulation of surface water, groundwater, wetlands, and adjacent uplands was necessary.

Research, particularly during the past ten years, has indicated the extent and severity of nonpoint source pollution and that the areas adjacent to lakes, rivers, streams, floodways, and wetlands can filter pollutants from runoff, lessen downstream flooding, and maintain stream base flows. These "riparian" areas have also been shown to provide a variety of wildlife, recreation, and infrastructure opportunities. Such research has also indicated that proper "riparian buffers" consist of a wide strip of vegetation that prevents soil erosion, filters runoff, encourages infiltration, stabilizes stream banks, provides shade to water bodies, provides cover for wildlife, and provides recreational opportunities. Improper riparian buffers have been shown to contain row crops and impervious surfaces, to allow unrestricted access of livestock to surface waters, and to allow excessive levels of sediments and pollutants to enter the adjacent waterbodies.

Based upon this information, the 1995 County sewage plan presented a revised environmental corridor definition and termed such areas as environmentally sensitive areas or ESAs. ESAs for the first time included:

- A setback/buffer from navigable waters that in some instances was greater than the previously required floodway.
- A setback/buffer from many non-navigable waters.
- A setback/buffer from many wetlands.

The *2002 Brown County Sewage Plan* has further revised the environmentally sensitive area definition in response to changing federal and state rules and regulations and in response to the growing importance and need for flood studies and stormwater management plans. The revised ESA definition includes expanded buffers for steep slopes adjacent to surface water features. In addition, the revised ESA definition also provides greater flexibility for the location of certain activities and uses within ESAs.

PURPOSE

Brown County has been blessed with many scenic, unique, and sensitive natural resource areas. Some examples are the Long Tail Point islands and coastal wetlands, such as Point au Sable and Peters Marsh; the Niagara Escarpment and particularly the associated Fonferek, Kittel, Rock, and Wequiock Falls areas; the Big Scott Woods; and the Neshota River Valley. Typical natural resource features include rivers and streams and their associated shorelands and floodlands, wetlands, woodlands, prairies, wildlife habitat areas, and wet, poorly drained, and organic soils and steep slopes. The presence and quality of these natural resource features in Brown County plays a pivotal role in the quality of life of County residents.

The benefits derived from natural resource features can also contribute to the health and safety of the County. Such benefits can include:

- Recharge of groundwater supplies, the source of drinking water for many people in Brown County.
- Maintenance of surface water and groundwater quality, which lends itself to improved drinking water supplies and recreational experiences.
- Attenuation of flood flows and stages, which decreases the risk of flood damage to adjacent property owners.
- Maintenance of base flows of streams and watercourses, which is important to the continued well-being of wildlife habitat.
- Reduction of soil erosion, which is vital for the continued high productivity of the County's agricultural lands.
- Abatement of air pollution, which results in health benefits for County residents, as well as for vegetation and wildlife.
- Abatement of noise pollution, which lends itself to use as a filter or buffer between adjacent and potentially conflicting land uses.
- Favorable modification of climate, which can result in moderation of temperature extremes, resulting in less stress on vegetation and potential building heating and cooling savings.

- Facilitation of the movement of wildlife and provision of game and non-game wildlife habitat, which improves hunting opportunities.
- Facilitation of the dispersal of plant seeds, which promotes continued biological diversity and healthy ecosystems.
- Protection of plant and animal diversity, which promotes healthy and thriving ecosystems able to survive change and stress.
- Protection of rare, threatened, and endangered species, thereby preserving a part of our natural heritage.

Because of the vital functions performed by these natural resource features, the intrusion of urban development into these areas is inappropriate and should be discouraged. The incompatibility of urban development within these natural resource features can also be evidenced by the widespread, serious, and costly problems that are often encountered when development occurs within these areas. Examples of such problems would include failing foundations of pavements and structures, wet basements, excessive operation of sump pumps, excessive clear-water infiltration into sanitary sewer systems, and poor drainage.

In addition, the destruction or deterioration of natural resource features may lead to a chain reaction of further environmental deterioration and destruction. For example:

- The destruction of ground cover may result in soil erosion, stream siltation, more rapid and higher volumes of stormwater runoff, and increased flooding, as well as the destruction of wildlife habitat, loss of scenic beauty, and loss of rare, threatened, and endangered species habitats.
- The draining of wetlands may destroy fish spawning grounds, wildlife habitat, groundwater recharge areas, and the natural filtration and flood storage areas of interconnecting stream systems. The resulting deterioration of surface water quality may, in turn, lead to a deterioration of the quality of the groundwater that serves as a source of domestic, municipal, and industrial water supply and upon which low flows of rivers and streams may depend.

When natural resource features are located within areas of future growth, they are often developed or degraded. This has led to the continual loss of these resources over time. Although many of the problems associated with development of these natural resource features are widely known and recognized, the pressures to develop these areas have become even greater as other more easily developable lands become less prevalent within and adjacent to growing communities.

The Brown County Planning Commission has long recognized this problem and the importance of protecting and preserving these natural resource features. The *1971 Brown County Open Space and Outdoor Recreation Plan*, the *1979 Brown County Environmentally Significant Areas Plan*, the *1996 Brown County Year 2020 Land Use and Transportation Plan*, as well as each update of the *Brown County Sewage Plan* have all set forth goals, objectives, and policies which strive to protect the natural resource features found in the County.

DEFINITION

To restore, maintain, and manage waters of the U.S. and the state, to promote a cost-effective and environmentally-sound wastewater collection and treatment system, to protect public and private property from damages related to flooding and erosion, to provide public recreation and infrastructure opportunities, to facilitate consistency with state and county regulations pertaining to land development and environmental protection, and to address the concerns and issues expressed by the Brown County Planning Commission and the Wisconsin Department of Natural Resources, the *2002 Brown County Sewage Plan* sets forth the following definition of environmentally sensitive areas:

> Environmentally sensitive areas (ESAs) are portions of the landscape, including valuable natural resource features, that should be protected from intensive development. ESAs shall include all lakes, rivers, streams, wetlands, floodways, and certain other significant and unique natural resource features. ESAs shall also include a setback or buffer from these features. Furthermore, areas of steep slopes (slopes 12% or greater) when located wholly or partially within these natural resource features shall also be included as an ESA.

Criteria

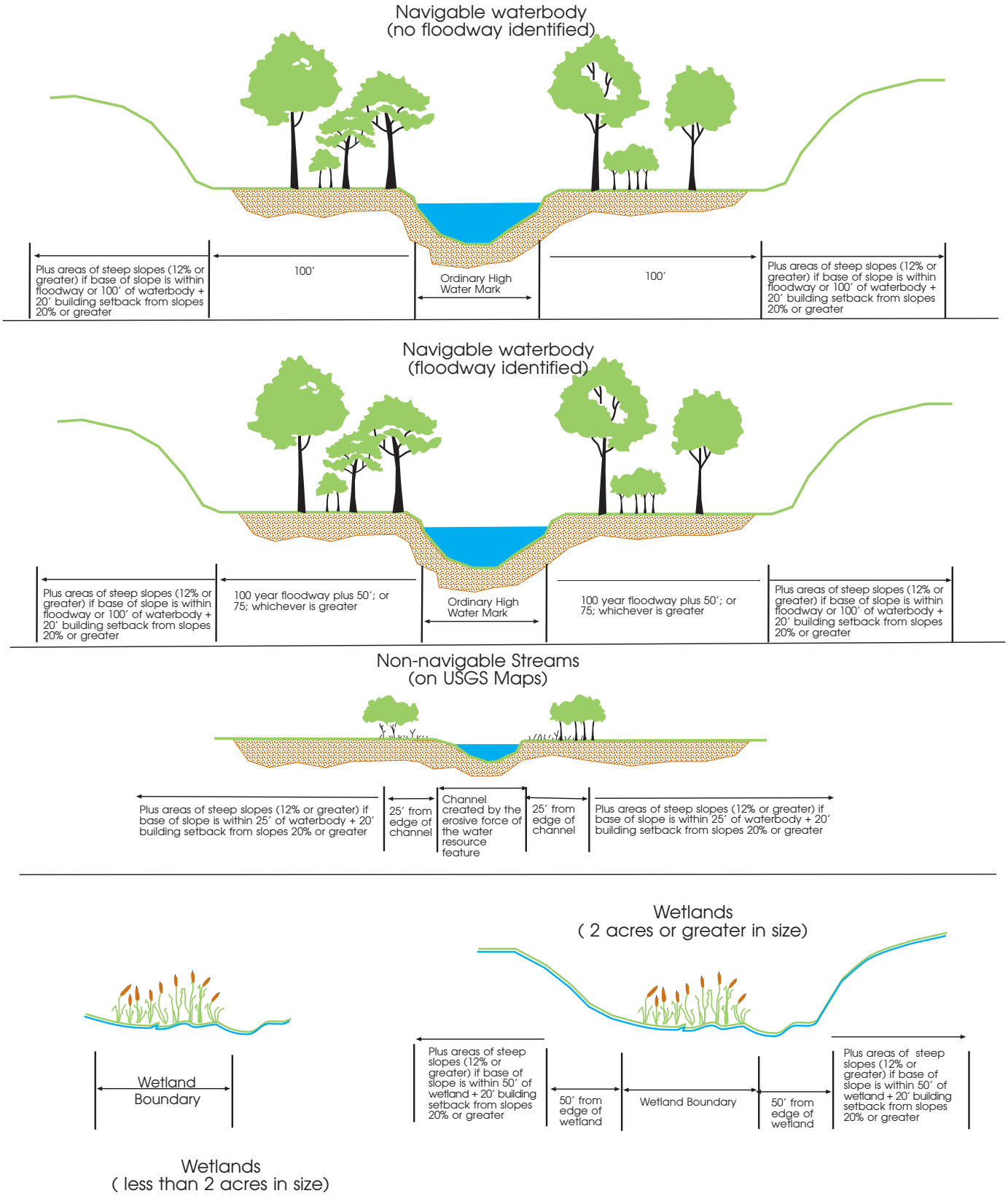
Figure 1 graphically depicts and Table 14 generally lists the criteria used to identify ESAs. Map 6 identifies the ESAs located within the planning area. These criteria are also set forth below in more detail.

- **Lakes, Rivers, Streams, and Ponds.** All lakes, rivers, streams, and ponds shall be identified as ESAs. This includes both navigable and non-navigable waters and both perennial and intermittent streams. The County sewage plan will use USGS topographic maps and the Brown County Land Conservation Department's hydrologic GIS information for initial mapping and identification purposes. Final delineation of these features may be subject to field verification by appropriate DNR or County personnel. It can also be noted that all such features will be assumed to be navigable until determined otherwise by appropriate DNR or County personnel.

- **Riparian Setbacks/Buffers.** All riparian setbacks/buffers (vegetated areas next to water resources that may protect such resources from nonpoint source pollution and may provide bank stabilization, aquatic and wildlife habitat, and recreational opportunities) shall be identified as ESAs. The County sewage plan will use GIS software programs for initial mapping and identification purposes. Final delineation of these areas will be subject to field verification by appropriate County personnel and surveyed by the subject property owner or local community.

  - The riparian setback/buffer for all navigable waters for which no flood study exists shall extend 100 feet from the OHWM.

Figure 1
Environmentally Sensitive Area Standards



Standards.fh10

- The riparian setback/buffer for all navigable waters for which a flood study exists shall extend to the outer limits of the floodway plus 50′ or 75′ from the OHWM, whichever is greater.
- The riparian setback/buffer of all non-navigable waters (those waters initially depicted on the USGS topographic maps but later determined not to be navigable) shall extend 25 feet from the edge of the channel.

Table 14
Environmentally Sensitive Area Summary

ESA Feature/Element	Setback/Buffer
Navigable waters[20] with no flood study	100′ from the OHWM[21]
Navigable waters with flood study	Floodway plus 50′ or 75′ from OHWM, whichever is greater
Non-navigable waters[22]	25′ from the top of bank[23]
Wetlands	50′ from the landward edge of wetlands 2 a. or larger (no setback/buffer from those less than 2 a.)
Other significant natural resource features	Special[24]
Steep slopes[25]	20′ building setback from slopes 20% or greater (no setback/buffer from slopes less than 20%)

- **Floodways.** All 100-year recurrence interval floodways shall be identified as ESAs. The County sewage plan will use FEMA- and DNR-approved floodplain maps and flood studies for mapping and identification purposes. In those situations where contradictory sources of information and mapping exist, the most restrictive shall apply. State and local regulatory personnel often require a detailed flood study when lands adjacent to surface water features are being developed. In addition, County regulatory personnel shall also typically require such studies. Factors to be considered by County personnel when determining when such studies shall not be required include the probable extent of the assumed floodplain and the relationship of the proposed development to that area and the findings and determinations of other affected regulatory agencies.

[20] All surface water features are assumed to be navigable until determined otherwise by appropriate DNR or county regulatory personnel.

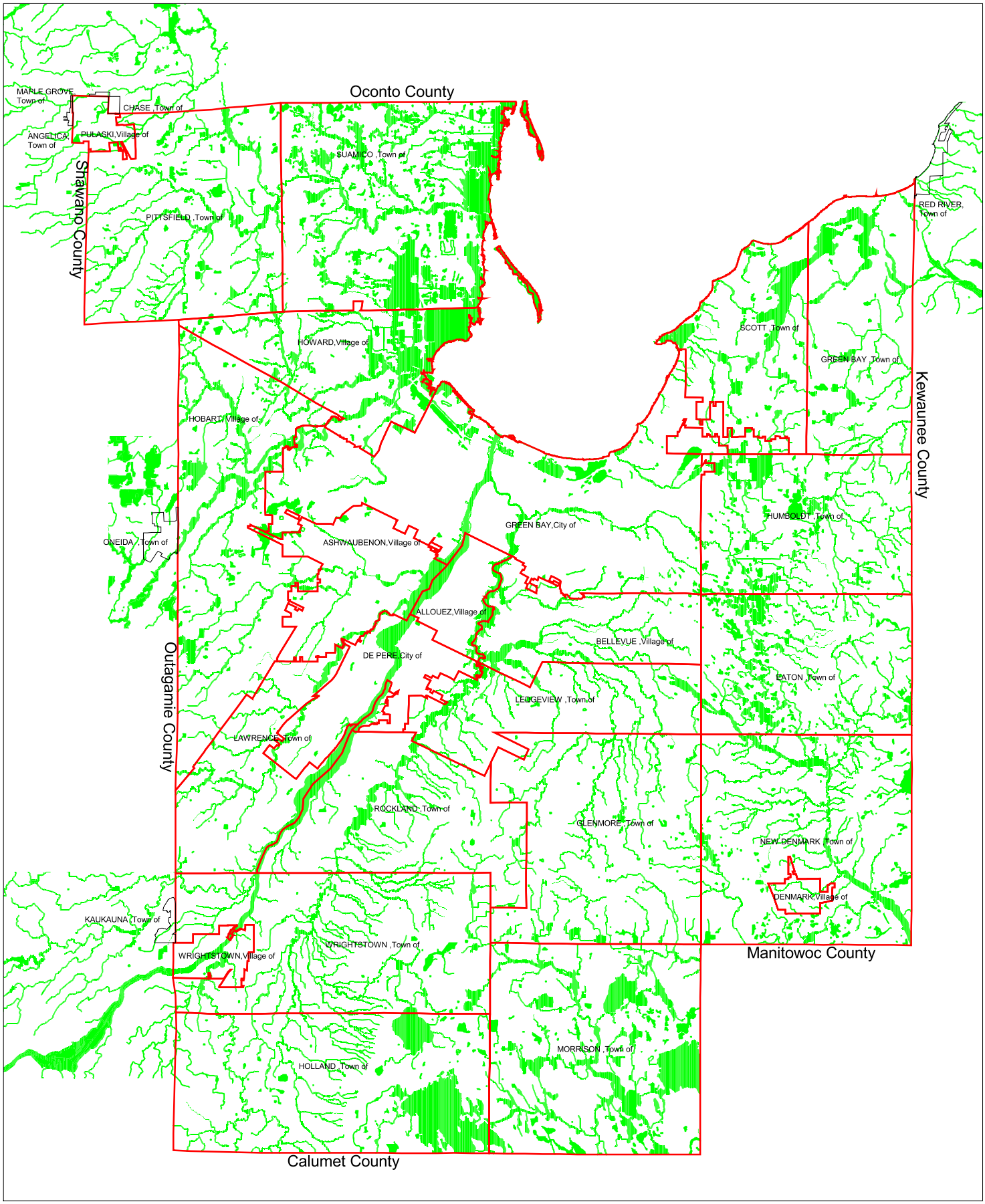
[21] The Ordinary High Water Mark (OHWM) is assumed to be the top of the bank of the water body unless determined otherwise by appropriate DNR or county regulatory personnel.

[22] Consists of those streams identified on the USGS maps but subsequently determined to not be navigable.

[23] The top of bank is considered the landward edge of the immediate channel or bank created by the erosive forces of the water resource feature.

[24] Buffer/setback to be determined on a case-by-case basis with local/state input.

[25] Consists of all slopes 12% or greater which are located within and extend beyond the natural resource feature and buffers set forth above.



1 0 1 2 Miles

This is a compilation of records and data located in various Brown County and City of Green Bay offices and is to be used for reference purposes only. The map is controlled by the field measurements between the corners of the Public Land Survey System and the parcels are mapped from available records which may not precisely fit field conditions. Brown County/ City of Green Bay are not responsible for any inaccuracies or unauthorized use of the information contained within.
No warranties are implied.
Map prepared by Brown County Planning Department. March, 2003.
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2002 Brown County Sewage Plan

Map 6. Environmentally Sensitive Areas

Environmentally Significant Areas

Brown County Established 1818

Brown County Planning Commission

- **Wetlands.** All wetlands and a setback/buffer of 50 feet on those wetlands two acres and larger in size shall be identified as ESAs. The County sewage plan will use ACOE and DNR maps for initial mapping and identification purposes. The location and extent of wetlands shall be subject to field verification upon the request of appropriate ACOE, DNR, county, or local regulatory personnel.

- **Other Significant Natural Resource Features.** Other unique natural resource features of environmental significance, such as river and stream headwaters, groundwater recharge areas, unique woodlands, high-value wildlife habitat areas, geologic and natural area sites and wet, poorly drained, and organic soils shall be considered for inclusion as an ESA on a case-by-case basis. Such inclusion shall be based upon a consensus of affected regulatory agencies and units of government in accordance with existing laws and regulatory rules.

- **Steep Slopes.** Those slopes 12 percent or greater which are located within and extend beyond any of the aforementioned natural resource features shall be identified as ESAs. The County sewage plan will use USGS and other such topographic maps for initial mapping and identification purposes. In addition, should such slopes exceed 20 percent, a 20-foot building setback shall also be required.

It is very important to note that the intent of the environmentally sensitive areas concept set forth in this County sewage plan is to identify, protect, and preserve natural water and water-related resource features on a countywide basis. Manmade water-related features, such as ponds created by or as part of quarrying and stormwater management or agricultural operations, are not to be identified as ESAs. However, should appropriate regulatory agencies determine that such manmade features are waters of the U.S. or the state and if developed or disturbed would pose a significant threat to water quality, the ESA criteria and restrictions set forth in this plan shall apply.

INCOMPATIBLE ACTIVITIES AND USES

As stated in this chapter's goals, objectives, and policies, it is intended that:

- The discharge of pollutants from both point and nonpoint sources into waters of the U.S. and the state be eliminated.
- Major areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints be excluded from the sewer service area.
- Areas that pose a potential for adverse impacts on the quality of the waters of the state from point or nonpoint sources of pollution be considered for exclusion from the sewer service area.
- Water quality levels that are "fishable" and "swimmable" be attained.

Therefore, environmentally-unsound development shall be prohibited within ESAs. In addition, sewered development and associated land-disturbing activities, such as filling,

excavation, grading, and clearing, will generally be prohibited within ESAs. Sewered development includes the construction, expansion, or replacement of:

- Sewerage systems, consisting of wastewater treatment plants, sanitary sewers, forcemains, and lift stations.
- Buildings and structures connected to a sewerage system.
- Accessory structures and impervious surfaces associated with any of the above, such as garages, storage buildings, and parking areas.
- Golf courses, campgrounds, ponds, etc., if associated with any of the above.

It is also important to note that the environmentally sensitive area concept may be incorporated into other County programs and regulations, including Chapters 10 (Agricultural Shoreland Management), 21 (Subdivisions), 22 (Shorelands, Floodplains, and Wetlands), and 26 (Animal Waste Management) of the Brown County Code. Under these County ordinances, similar restrictions may apply to non-sewered development and certain agricultural activities. It is strongly recommended that this plan and those ordinances be consulted before any development or land-disturbing activities are undertaken within Brown County.

COMPATIBLE ACTIVITIES AND USES

As stated in this chapter's goals, objectives, and policies, it is intended that water quality management issues be addressed in an economically-feasible and environmentally-sound manner. It is also stated that the use of environmentally sensitive areas for such mutually compatible uses as environmental protection, public recreation, stormwater management, and environmentally-sound wastewater collection and treatment systems be allowed and encouraged. Therefore, certain activities are permitted within ESAs. These permitted activities are also in keeping with the County sewage plan's intent to promote a countywide ESA concept.

The extension of public and private infrastructure and utilities (such as roads, sanitary sewers, water mains, storm sewers, gas lines, and fiber optic cables) across ESAs to enable the provision of such service to development located outside the ESAs is herein allowed, and an ESA amendment shall not be required.[26] In such instances, appropriate caution and care must be exercised so that any disturbance to the ESA is minimized and the subject area is returned as much as possible to its pre-disturbed conditions. Such infrastructure and utilities should also be designed and constructed to the greatest extent possible so that once built will not have to be replaced or augmented and will minimize disturbance of ESAs. However, if local, county, or state representatives determine that the extent or nature of the disturbance of the ESA may be significant, such agencies may require the preparation, approval, and implementation of a restoration plan and/or erosion control plan.

[26] However, such disturbances of ESAs must be noted in the water quality management (208) sanitary sewer extension letters and in the subject sewer plans and specifications, so that an environmental review of the proposed action can be conducted, if necessary, during DNR review of the sewer plan.

In addition, with receipt of all necessary local, county, state, and federal permits and approvals and when designed to minimize environmental impacts, development of the following facilities shall also be allowed within ESAs:

- Recreation (ballfields, playgrounds, tennis courts, etc.).
- Stormwater management (ponds, detention/retention areas, swales, etc.).
- Environmentally-sound wastewater collection and treatment systems (wastewater treatment plants, interceptor sewers, forcemains, lift stations, gravity sewers, etc.).

An ESA amendment shall not be required for such activities when all required permits and approvals are received, mitigation plans for any potential adverse water quality related impacts (degradation of the chemical, physical, and biological integrity of the waters of the U.S. and the State of Wisconsin, including loss or damage to fish and aquatic life, wildlife and recreation, and public water supplies or significant increases of pollutant loadings from point or non-point sources) have been approved by the appropriate regulatory agencies, and proper prior notification of the ESA impact has been submitted to all affected agencies, including the Bureau of Watershed Management of the WDNR.

Furthermore, to avoid duplication of regulatory efforts, to streamline ESA amendments where possible and appropriate, and to maximize consistency between related regulatory programs, the following process will be implemented. This process does not apply to the compatible activities noted above unless an ESA delineation or location would change as a result of a proposed project.

- The Northeastern Region DNR will provide the Brown County Planning Commission a copy of all applications for Chapter 30 permits.
- The Brown County Planning Commission staff will notify the Northeastern Region DNR staff of the presence of any ESAs within the proposed project. If present and anticipated to be affected by the proposed project, the Northeastern Region DNR will require the applicant to so indicate in any public notification and/or public input component associated with the permit process.
- The Brown County Planning Commission staff will notify the Northeastern Region DNR staff in writing during the permit review period of any water quality and ESA-related concerns associated with the proposed project as set forth under Wisconsin Administrative Code NR 121.
- Upon review and consideration of all appropriate information, including that submitted by the Brown County Planning Commission staff, the Northeastern Region DNR shall correspondingly approve, deny, or add conditions to the permit as appropriate and as provided by law.
- If any ESA delineation or location changes are to occur, the Northeastern Region DNR will provide a copy of any permit or approval and supplemental information, if any, to the Brown County Planning Commission.
- The Brown County Planning Commission will then prepare a written summary and map outlining the change to the affected ESA, will include a copy of the permit, and will submit that information to the Northeastern Region DNR, as well as to the

DNR's central office in Madison, as an official record of the change to the areawide water quality management plan.

Stormwater management practices and facilities within ESAs do, however, require an ESA amendment in those instances when any element of the ESA (such as the floodway, wetland, or buffer) decreases in size.

Last, those lands that have already been developed or that have previously been committed to development (i.e., approved subdivision plats, CSMs, or non-platted lots of record less than 10 acres in size) shall be subject to the ESA definition that was in effect at the time of local approval. However, such development or redevelopment will not be allowed within navigable waters, floodways, or wetlands.

Further detail about the compatible activities within ESAs is set forth in Appendix F.

APPLICABILITY

Pursuant to the federal and state areawide water quality management planning rules and regulations previously noted in this plan, these ESA restrictions pertain only within approved sanitary sewer service areas and only to sewered development. State policy also requires that the provisions of this county sewage plan be consistent with all other elements of the areawide water quality management plan, including nonpoint source priority watershed plans, remedial action plans, and wastewater treatment plant facility plans. Enforcement of these requirements will occur during the "WQM" or "208" letter conformance review undertaken for all public and private sanitary sewer extensions. Failure to abide by the requirements of this County sewage plan and the areawide water quality management plans of which it is part may result in a denial of sanitary sewer service to the concerned project.

Development utilizing onsite sewage disposal systems, even if located within a sewer service area, is not regulated by the rules of the *2002 Brown County Sewage Plan* but may be subject to other state, county, or local regulations. In addition, this ESA concept may soon be incorporated into Chapters 10, 21, 22, and 26 of the Brown County Code. It is intended that the requirements contained within the *2002 Brown County Sewage Plan* be implemented cooperatively with these ordinances and with applicable federal, state, and local rules and regulations, including, but not limited to, the Federal Clean Water Act, Wisconsin Administrative Codes NR 103, 115, 116, 117, 121, 151, 216, and 299, and local zoning ordinances. Therefore, prior to any development or land-disturbing activity within the planning area, these plans, ordinances, rules, and corresponding regulatory agencies should be contacted to determine the feasibility of the proposed project.

It is intended that this plan be a "living document." ESA features and the basis for their delineation may change over time for a variety of reasons. To accommodate reasonable and justifiable changes to the delineation of an ESA, this plan also sets forth procedures and criteria to be followed in addressing those situations. Such procedures and their

criteria are termed ESA amendments and are generally set forth in Chapter 8 and are detailed in the Amendment Application Manual.

It should also be noted that the sanitary sewer service area maps set forth in the *2002 Brown County Sewage Plan* and, in particular, the environmentally sensitive areas shown thereon are a representation of conditions at the time of map preparation. Such physical features may change over time from natural or human causes. Therefore, it is extremely important that appropriate regulatory personnel, prior to any land-disturbing activity, verify the presence and location of navigable waters, floodways, wetlands, and other similar natural resource features. Such verified information shall supercede and replace any previously mapped information set forth in this plan.

EMERGING ISSUES AND TRENDS

The State of Wisconsin is currently undertaking a redesign of its entire nonpoint source pollution program, including programs administered by the Department of Natural Resources, the Department of Agriculture, Trade and Consumer Protection, the Department of Transportation, and the Department of Commerce. This effort is intended to advance the state's progress in addressing nonpoint source water quality problems.

As noted earlier in this report, nonpoint source pollution is considered to be Wisconsin's greatest cause of water quality concern adversely affecting about 40 percent of its streams, about 90 percent of its inland lakes, many of the Great Lakes harbors and coastal waters, and a substantial portion of its groundwater resources.

The above-noted state departments are working cooperatively to prepare statewide performance standards and prohibitions to resolve many nonpoint source water pollution impacts. Furthermore, when these statewide standards are inadequate to meet local water quality goals, targeted performance standards requiring a higher level of treatment or protection may be established. The performance standards as currently proposed will apply to:

- Agricultural practices (all areas of new cropping or livestock operations and existing cropping and livestock operations to which cost-sharing has been offered).
- Non-agricultural practices (all sites where land-disturbing construction activity affects five acres or more and, by March 2003, all sites where land-disturbing construction activity affects one acre or more).
- Transportation practices (both DOT and non-DOT transportation facility construction sites on which land-disturbing construction activity affects five acres or more and, by March 2003, all transportation facility construction sites on which land-disturbing construction activity affects one acre or more).

The goals of these redesigned programs are to:

- Reduce the average annual sediment load carried in runoff by 80 percent.
- Maintain or lower runoff rates to certain specifications.
- Control the volume of runoff through infiltration.

- Create and maintain buffer areas.
- Reduce total suspended solids within many metropolitan areas by 20 percent by March 2008 and by 40 percent by March 2013.
- Ensure that all crop producers achieve a soil erosion rate equal to or less than the "T" (tolerable) rate on cropped fields.
- Establish and maintain concentrated flow channels in many cropland areas.

When approved by the Wisconsin State Legislature (anticipated in 2003), these changes will have immediate and significant impacts upon other regulatory programs, including the areawide water quality management planning program and, by extension, this *2002 Brown County Sewage Plan*. It is, therefore, recommended that upon approval of the proposed changes to the state's nonpoint source pollution program, this County sewage plan be immediately reviewed to ensure its continued compliance with applicable federal and state rules and regulations.

Chapter 7

AMENDMENTS

The purpose of this chapter is to present a summary of the process required to amend the Brown County Sewage Plan. This chapter will also present the reasons for such a process and identify the governmental agencies that must be involved and their responsibilities. Additional information concerning the amendment process is set forth in the Amendment Application Manual.

The provision of a process whereby sewer service area and environmentally sensitive area boundaries may be amended is essential for maintaining sewer service areas which are sound and in the public interest. With such a process founded upon sound engineering, planning, and environmental principles, it is possible to delineate sewer service areas and environmentally sensitive areas that balance both economic and environmental concerns. Properly prepared, sewer service area amendments can provide communities with needed flexibility to:

- respond to unanticipated community growth;
- reflect additional or new technical data;
- react to changing trends; and
- incorporate public input.

Properly prepared sewer service area amendments can also identify and preserve sensitive natural resource features and help protect water quality.

Since the update of the County sewage plan in 1997, Brown County Planning Commission staff has responded to over 70 sewer service area and environmentally sensitive area amendment requests involving over 3,600 acres of land. Approximately 2,200 hours were devoted to amendment requests during this time-period. Many of the amendment requests were the subject of long debates, sensitive environmental and archeological concerns, and municipal service issues. Staff review of the amendments has continued to become more comprehensive in scope as these amendments have become more detailed and controversial in nature.

In an effort to respond more promptly to these requests while also continuing to provide the level of review these increasingly complicated amendments warrant, the Brown County Planning Commission had developed an Amendment Application Manual during an update of the County sewage plan in 1997. Previously, the "amendment sponsors" determined on their own what information to submit to the BCPC staff for review of the sewer service area amendment. The level of detail submitted by the amendment sponsors typically varied greatly and oftentimes required a substantial investment of time for staff to interpret and verify.

Through the use of the Amendment Application Manual, amendment sponsors now submit information based on the guidelines and criteria outlined in the manual. This

approach enables the amendment sponsors to know precisely what information to provide to the BCPC staff and allows such information to be provided in a consistent manner.

This approach transfers the "documentation of need" to the sponsor. BCPC staff, in turn, reviews the application in cooperation with DNR staff. Dependent upon their findings, the staff will either request additional information, issue a recommendation, or submit the amendment request with a staff recommendation to the Brown County Planning Commission Board of Directors and the Wisconsin Department of Natural Resources for formal review and action.

All amendment requests must be submitted and/or approved by the concerned local unit of government prior to review by the Brown County Planning Commission. Furthermore, all amendment requests must be reviewed by appropriate DNR, BCPC, and wastewater treatment plant representatives. In certain instances, DNR and BCPC staff concurrence on a requested amendment may be final and binding (see Minor Amendments). In most circumstances, however, formal action by the Brown County Planning Commission Board of Directors and by the Wisconsin Department of Natural Resources will be required (see Major Amendments).

In order to respond more appropriately to amendment requests, the Brown County Planning Commission has created the following amendment review process. The goals, objectives, and standards guiding that process are also set forth below. The actual amendment process is summarized later in this chapter and is detailed in the Amendment Application Manual.

GOALS, OBJECTIVES AND POLICIES

Goal #1 To ensure that the Brown County Sewage Plan shall be reviewed and revised as necessary so that it continues to reflect existing conditions and projected trends affecting sewer service area planning.

- Objective #1 To encourage and facilitate administrative review of sewer service area and environmentally sensitive area amendments.
- Objective #2 To provide a flexible and streamlined sewer service area amendment process that can effectively and efficiently respond to unanticipated growth and development.
  - Policy #1 The provision of public water as a condition of sewer service area amendments shall be encouraged.
  - Policy #2 Erosion control and stormwater management standards shall be established for sewer service area amendments.
- Objective #3 To provide an amendment process for the consideration of changes and adjustments to environmentally sensitive areas.
  - Policy #1 Administrative changes of environmentally sensitive

areas shall be allowed when based upon a regulatory change of an environmentally sensitive area feature.

Policy #2 Erosion control and stormwater management standards shall be established for environmentally sensitive area amendments.

AMENDMENT TYPE, POLICY, AND CRITERIA

Through the following approach, the Brown County Planning Commission envisions that those sewer service area and environmentally sensitive area changes which are smaller in scope and impact can be reviewed more expeditiously, while those changes with a significant impact receive the detailed review and consideration they warrant.

It is also important to note that all amendments, irrespective of size or type, must be in conformance with the sewer service area guidelines set forth in chapter 5. Of particular importance in this regard are those guidelines that deal with the extension of sewer service area by one community into another.

Therefore, the following amendment types, policies, and criteria have been created.

Amendment Types

Minor Amendments

The minor amendment process is intended to provide a means for timely review of those sewer service area changes to the *2002 Brown County Sewage Plan* which are both fully consistent with the purpose and intent of this plan and are minor in extent and scope. Furthermore, it is intended that the minor amendment process be implemented administratively by Brown County Planning Commission staff in cooperation with appropriate local government and DNR staff.

Changes requested under the minor amendment process shall be in general conformance with the following plans and planning programs where applicable:

- The Areawide Water Quality Management Plan.
- The *2002 Brown County Sewage Plan.*
- The sewage conveyance and treatment capacity elements of local wastewater treatment plants' facility plan.
- The local nonpoint source priority watershed plan.
- Local and county comprehensive plans.
- Local and county stormwater management, erosion control, and land and water plans.
- Local, county, and state rules and regulations.

To accommodate documented hardships, conditional approval of a minor amendment may be granted. However, the Brown County Planning Commission shall not grant approval of a sanitary sewer extension for the subject amendment until all such

conditions have been fully satisfied. Documented hardships for this purpose are defined as those instances where conditional approval of an amendment is necessary to meet project application or construction deadlines imposed by financing conditions or other regulatory programs.

To accommodate sewer service area boundary changes between co-terminus SSAs, an expedited amendment procedure will be granted. It is envisioned that the expedited amendment shall consist of the transfer of a subject area from one SSA to an immediately adjacent SSA. The expedited amendment process shall only be applicable when all affected parties concur with the proposed change and the proposed change is in conformance with the goals, objectives, policies, and guidelines of the *2002 Brown County Sewage Plan*.

The *2002 Brown County Sewage Plan* sets forth one type of minor amendment. A brief summary follows. A detailed description of the minor amendment can be found in the Amendment Application Manual.

Minor sewer service area amendments involve any addition to or deletion from a sewer service area that involves less than five acres of land. Such an addition must typically be located immediately adjacent to an approved sewer service area, while any such deletion must typically not result in the creation of a "hole" in a current sewer service area.

Major Amendments

The major amendment process is intended to provide a means for review of those changes to the *2002 Brown County Sewage Plan* which, while generally consistent with the purpose and intent of the plan, are either major in scope or may be dependent upon remediation or mitigation to ensure full compliance with this plan.

Changes requested under the major amendment process shall also be in conformance with the applicable plans and planning programs noted under the minor amendment process.

As with the minor amendment process, to accommodate documented hardships, conditional approval of a major amendment may be granted. Under the major amendment process, however, the Brown County Planning Commission shall not transmit its recommendations to the Wisconsin Department of Natural Resources until all such conditions have been fully satisfied. Documented hardships for this purpose are also defined as those instances where an amendment is necessary to meet project application or construction deadlines imposed by financing conditions or other regulatory programs.

To accommodate sewer service area boundary changes between co-terminus SSAs, an expedited amendment procedure will be granted. It is envisioned that the expedited amendment shall consist of the transfer of a subject area from one SSA to an immediately adjacent SSA. The expedited amendment process shall only be applicable when all affected parties concur with the proposed change and the proposed change is in

conformance with the goals, objectives, policies, and guidelines of the *2002 Brown County Sewage Plan*.

The *2002 Brown County Sewage Plan* also sets forth two types of major amendments. A brief summary of both types of amendments follows. A detailed description of each type of major amendment can be found in the Amendment Application Manual.

Major sewer service area amendments involve any addition to or deletion from a sewer service area not covered as a minor sewer service area amendment. The major amendment typically involves those amendments encompassing five or more acres of land.

Major environmentally sensitive area amendments involve any addition to or deletion from an environmentally sensitive area (which might result in a significant adverse water quality impact).

Amendment Policies

In addition to the three types of amendments noted previously, the *2002 Brown County Sewage Plan* has also identified five policies for sewer service area and environmentally sensitive area changes, including:

- Policy #1 (Plan Correction). Sewer service areas and environmentally sensitive areas may be changed to correct map, data, projection, or allocation errors found in the county sewage plan or to reflect more accurate and up-to-date information due to approved regulatory changes or field investigations and verification.

- Policy #2 (Acreage Swap). Sewer service areas may be changed as long as there is no net increase in the amount of land to be provided sewer service. An area equal in size to that being added must be removed from the sewer service area and must involve lands envisioned for similar uses.

- Policy #3 (Existing Development). Sewer service areas may be expanded to include areas of existing development provided that the area has been identified as an onsite sewage disposal problem area by the Wisconsin DNR or by the Brown County Planning Commission and that it has been determined that the provision of public sanitary sewer service to this area is the most cost-effective and environmentally-sound alternative.

- Policy #4 (Special Regional Uses). Sewer service areas may be expanded provided there is a documented need for public sanitary sewer service for a unique facility or development of regional or statewide importance.

- Policy #5 (Proper Land Use Planning). Sewer service areas and environmentally sensitive areas may be changed to reflect sound local or regional land use planning.

Each sewer service area and environmentally sensitive area amendment request must meet the requirements of at least one of the five policies. Further information concerning the five amendment types and the requirements for each of these five policies is set forth in the Amendment Application Manual.

Amendment Criteria

As noted above, every proposed change to the County sewage plan must be submitted under and must meet the conditions of at least one of the four amendment types and at least one of the five amendment policies. For each combination of amendment type and policy, a specific set of criteria shall apply. These criteria concern amendment fees, schedules, mapping and investigative requirements, and other such amendment review criteria.

The specific amendment review criteria include:

- Letter of Support - a letter from the affected unit of government indicating its support of the amendment.
- Letter of Intent - a letter from the applicant describing the amendment request.
- Cost-effectiveness - an analysis of options and costs for addressing the subject amendment area.
- Sewage Conveyance and Treatment Impacts - an analysis of the impact of flows and loadings from the subject amendment area.
- Conformance with Local and County Plans - an analysis of the compliance of the amendment request with local and county plans, zoning, etc.
- Public Water Supply and System Analysis – an analysis of the impact of the proposed amendment and its development upon public drinking water supplies and systems.
- Population Projection Acreage Allocation Justification - a determination that inclusion of the subject area is in compliance with the subject SSA's acreage allocation.
- ESA Impacts Consideration - an analysis of the subject amendment's impact on existing ESAs and a description of any proposed mitigation or enhancement efforts.
- Intergovernmental Coordination and Cooperation - provision of notification by the applicant to adjacent potentially impacted units of government and a description of any efforts to resolve concerns.
- Erosion Control and Stormwater Management - an analysis of erosion control and stormwater management impacts, efforts and issues, both during and after construction.

The specific details associated with each of these criteria are set forth in the Amendment Application Manual.

Amendment Process

The 2002 Brown County Sewage Plan recommends that all amendments begin with a pre-application meeting between the applicant, BCPC staff, and representatives of the affected units of government. Clarification of the amendment request, as well as the

information necessary for BCPC and DNR review of the amendment, can be addressed at this time. Subsequent to the pre-application meeting, the applicant should submit the completed amendment application to BCPC staff. With receipt of a completed amendment, as described in the 2002 Brown County Sewage Plan Amendment Application Manual, the BCPC review can begin. When completed, formal action by the BCPC occurs, and the applicant is informed of the decision. If the applicant concurs and the subject request is a minor amendment, the applicable sewer extension can be reviewed. If the subject request is a major amendment, all pertinent information is submitted to the DNR for their review. If approved, the applicable sewer extension can then be reviewed.

Chapter 8

IMPLEMENTATION

Although the Brown County Planning Commission is the local administrative authority for the implementation of the 2002 Brown County Sewage Plan, the cooperation of local municipalities, sanitary districts, utility districts, and sewerage districts is paramount to its success. Recognized as a major implementation tool of the DNR's four areawide water quality management plans which pertain to Brown County and of the *Brown County Year 2020 Land Use and Transportation Plan*, the County sewage plan provides direction to the fulfillment of future land use, development, and environmental goals and objectives. In addition to local support, the actions of state authorities, such as the Wisconsin Department of Natural Resources and the Wisconsin Department of Commerce, will also greatly impact the success of this plan.

GOALS, OBJECTIVES, AND POLICIES

Goal #1 To include procedures and mechanisms for intergovernmental cooperation and public participation.

- Objective #1 To cooperate with areawide 208 planning agencies in identifying appropriate technologies for each wastewater treatment facility.
- Objective #2 To establish and maintain the relationship of the sewer service area planning process to the Oneida Tribe of Indians of Wisconsin and to those communities located outside of Brown County but within the planning area.
- Objective #3 To work closely with communities, sanitary districts, utility districts, and sewerage districts in providing data and planning expertise during the development of facility plans.
- Objective #4 To assist communities, sanitary districts, utility districts, sewerage districts, and private homeowners in procuring financial assistance through the "Wisconsin Fund" and "Clean Water Fund."
- Objective #5 To evaluate, on a case-by-case basis, the economic and environmental impacts of proposed regional sewerage service alternatives on existing Brown County sewerage facilities.
- Objective #6 To coordinate, evaluate, and monitor the actions of local and state authorities on adherence to county land use goals, objectives, and policies.

RECOMMENDATIONS

It is recommended that the following steps be taken to implement this plan:

1. The *2002 Brown County Sewage Plan* should be formally approved by the Brown County Planning Commission Board of Directors. While not required, the plan will then be forwarded to the governing bodies of the cities, villages, and towns within the planning area impacted by this plan and to the governing bodies of the operators of the wastewater treatment facilities within Brown County for endorsement as a guide for the identification of sanitary sewer service areas and for the provision of public sanitary sewer service.

2. The *2002 Brown County Sewage Plan* should be formally approved by the Wisconsin Department of Natural Resources as an amendment to the four water quality management plans (Lower Fox River, Twin-Door-Kewaunee River, Upper Green Bay, and Manitowoc River) which pertain to the planning area.

3. The Brown County Planning Commission, Brown County Land Conservation Department, and the Brown County Zoning Department should amend their land subdivision, shoreland zoning, and other related ordinances to ensure that the policies expressed in such ordinances reflect the urban service and environmental protection recommendations set forth in this plan.

4. The cities, villages, towns, sewerage districts, utility districts, and sanitary districts within the planning area should review their land subdivision ordinances, zoning ordinances, comprehensive plans, and utility extension policies to ensure that the policies expressed in such ordinances, plans, and policies reflect the urban service and environmental protection recommendations set forth in this plan.

5. The Brown County Planning Commission should review and comment on all public and private sanitary sewer extensions, wastewater treatment facility plans, and sewer service area and environmentally sensitive area amendments within the planning area as to their conformance with this County sewage plan and the DNR's water quality management plans.

OTHER CONSIDERATIONS

In addition to the above, there are other programs and/or policies which will impact implementation of the County sewage plan. These include the Wisconsin Department of Natural Resources' Non-Proliferation Policy and the Wisconsin Department of Commerce's policies, such as Com 83.

DNR Non-Proliferation Policy

The Department of Natural Resources' Non-Proliferation Policy is designed to limit construction of new sewage treatment facilities to those that are most cost-effective and will preserve and protect the quality of Wisconsin's waters most efficiently. According to this policy, the DNR will approve a new sewage treatment facility only if a DNR-approved facility plan documents that it is significantly (>10 percent) less costly to

construct the new onsite treatment facility than to connect with a regional or nearby facility. Although not absolute or formalized, this policy means that if a facility plan shows that costs of regional and onsite treatment alternatives are within 10 percent of each other, the DNR will only approve the regional alternative unless there is some overriding non-economic justification of the onsite alternative. The 10 percent threshold is not absolute but is a guide in the comparative analysis.

Any proposal to construct a new sewage treatment facility must comply with NR 110.08, Wisconsin Administrative Code. NR 110.08(5) states that it is the policy of the DNR to restrict the construction of new sewage treatment facilities in order to preserve and protect the quality of the waters of the state. The DNR may deny requests for approval of new sewage treatment facilities unless they meet the following criteria.

Proposals for new treatment facilities to serve existing residential development may not be approved unless the following three conditions are met: the facility is necessary to solve a documented and severe existing water quality (groundwater or surface water) or public health problem related to inadequate existing residential sewage disposal or is needed to replace an existing treatment facility which is not in compliance with its WPDES permit; the facility must be the most cost-effective alternative solution; and the facility must be municipally owned, operated, and maintained.

Interim treatment facilities are those which would serve areas which are within the future sewer service area of another existing facility as delineated in an approved areawide water quality management plan. Proposals for new interim treatment facilities may not be approved unless they meet the conditions for new treatment facilities serving existing residential development, plus the three following conditions: the sewage collection system is designed so it can be easily connected to the regional system in the future; the sewer service area of the proposed system lies entirely within the planned service area of the regional system as delineated in an approved areawide water quality management plan; and all involved municipalities sign an agreement which provides for a specified date of abandonment and connection.

Proposed treatment facilities serving isolated nonresidential development, such as parks and recreational facilities, airports, highway-oriented commercial facilities and institutions, such as hospitals, nursing homes, prisons, and schools, may not be approved unless the following three conditions are met: joint treatment with another wastewater treatment facility is not feasible; the proposed facilities are designed to treat only wastes generated by the proposed nonresidential development; and WPDES permit limits for the proposed nonresidential development are met.

Treatment facilities to serve new residential development, such as subdivisions, mobile home parks, and condominiums, may be denied. Variances to this general prohibition may be granted only after the DNR considers the general public interest, environmental impacts, socioeconomic impacts, and the impact on orderly development and provision of general governmental services within the service area. In addition, all of the following criteria must be met: the proposal must be consistent with the DNR's responsibility to

protect, maintain, and improve the quality and management of the waters of the state; the proposed facilities will be municipally owned, operated, and maintained; the proposed facilities will be more cost-effective than other treatment alternatives; and all other state, federal, and local approvals have been obtained.

Treatment facilities for existing mobile home parks and condominium developments may not be approved unless the requirements for a new treatment facility serving existing residential development are met. If all these conditions except municipal ownership are met, the owner must submit the three following items: proof that sufficient funds to operate, maintain, and abandon the facility are available; documentation showing that the new treatment facilities are being proposed as a replacement of a failing septic tank/soil absorption system which has been in use for at least 10 years; and proof of the inability to form a town sanitary district or other appropriate entity to oversee the facility.

Any new sewage treatment facility must be in accordance with the approved areawide water quality management plan. There also may be additional criteria necessary to address regional or local considerations.

Recent Changes to Com 83

The Wisconsin Department of Commerce administers Chapter Com 83 of the Plumbing Code. The chapter establishes specific and prescriptive minimum standards for the design, installation, and maintenance of private sewage systems. The current code represents a complete re-evaluation of the private sewage program.

Com 83 does not dictate or prioritize specific solutions or the selection of systems. Rather, the chapter delineates the critical factors, parameters, options, prohibitions, and limitations for the design of privately-owned wastewater treatment systems. Under Com 83, designers and owners are allowed to choose the appropriate method for reducing the contaminant loads and dispersing the hydraulic flows by selecting and arranging pre-recognized treatment components, single-use designs, site credits, and other means in conjunction with site limitations for a particular project.

Financial Assistance

The Clean Water Fund (CWF) is a State of Wisconsin environmental loan program that was established in June 1990. The purpose of the fund is to provide low interest rate loans and grants for municipal wastewater projects. The Clean Water Fund intended to fill the void in funding sources when the federal government phased out its wastewater project funding in 1994. The Department of Natural Resources (DNR) is the primary administrator of the CWF program, and the Department of Administration is the financial manager for the CWF program.

The CWF provides funds for projects to build new wastewater treatment plants, modify or expand existing treatment plants, construct interceptors, or build a sewer system in an unsewered area. Funds for these various projects are available only for a Wisconsin town, village, city, county, town sanitary district, or lake protection district. Other

entities that may benefit are metropolitan sewerage districts and federally recognized Indian tribes but not individual homeowners or businesses.

Eligible candidates for the Clean Water Fund can receive loans ranging from $25,000 to $74.4 million. Various costs that the loan can cover include materials, equipment, labor, land, and professional fees. Refinancing an approved project less than five years old is also an option. The CWF will also finance the treatment of industrial discharge. By statute, CWF loans must mature in no more than 20 years from the date of the first loan disbursement to a community.

Additional loan terms in the Clean Water Fund have several requirements. First, the municipality must provide the CWF with a tax-exempt bond or note. The bond can be a general obligation, revenue pledge, special assessment pledge, or combination of pledges. The attorney for the municipality will need to be involved in the preparation of certain documents and in rendering advice on the debt issuance process. The municipality does not have to pay to obtain a bond rating from a rating company. Currently, there are no fees, discounts, or other charges paid to the Clean Water Fund.

Before a municipality begins its project, it is recommended that the community contact the DNR because the proposed project must be approved by the DNR if a loan is granted. The municipality must have a wastewater user charge system that is fair and equitable. If not already in place, a replacement or depreciation fund must be established to replace equipment that will wear out during the life of the treatment plant. Also, the community must be able to afford the proposed loan payments.

Finally, the Clean Water Fund is an important tool that municipalities can utilize when in need of financial assistance. In addition to benefiting the community that receives the loan, others can utilize available money from future loans made from the repayment of Clean Water Fund loans in the form of a revolving loan fund. The loan program also provides an incentive for users to conserve water resources since a more realistic cost of capital will be reflected in the user charges. Last, since grants provide cost-free capital, they tend to keep user charges artificially low.

To apply for a Clean Water Fund loan, an "Intent to Apply" form must be filed with the DNR by December 31, and a "CWF Financial Assistance" application needs to be filed by the following June 30. Project planning documents must also be submitted as part of the process.

The Wisconsin Fund, established through the Private Sewage System Replacement or Rehabilitation Grant Program in 1978, can provide financial incentives to protect and improve public health, safety, and groundwater quality in Wisconsin.

As part of this program, Wisconsin counties and Indian tribes may apply to the Department of Commerce for grants to assist homeowners and small commercial business owners in rehabilitating or replacing a failing private sewage system. Failing private sewage systems fall into three categories. Category 1 systems fail by discharging

sewage to surface, groundwater, drain tiles, bedrock, or zones of seasonally saturated soils. Category 2 systems fail by discharging sewage to the surface. Category 3 systems fail by causing sewage backup into the structure served. The program is voluntary.

To apply for a grant, an individual must first contact the Brown County Zoning Administrator's Office. The County staff will help determine the cause of the sewage problems, suggest possible solutions, and establish whether or not the situation is eligible for a grant.

When applying for a grant, a sanitary permit to replace or repair the system must be obtained, an application form must be completed, and evidence of the applicant's annual income must be provided. Forms and instructions are provided by the County and, after completion, must be returned to the County.

If the applicant is the principal owner/occupant of a private residence or a small commercial business owner, the applicant may be eligible for a grant provided that a list of eligibility requirements are met. These include:

- The applicant's county is participating in the program. Brown County is a participant.
- The applicant must have received a written order or determination of failure to correct the violation.
- The applicant's principal residence or small commercial establishment is not located in an area served by a municipal sewer.
- The income of all owners of the principal residence is less than $45,000 and the small commercial establishment is less than $362,500.
- The applicant complies with all other program requirements.

Various components which may be eligible for a grant include soil evaluations, soil testing, installation of replacement or additional septic tanks, and installation of a conventional in-ground, pressure, at-grade, mound soil absorption area, or holding tank.

Requirements also state that to qualify the applicant's principal residence must be occupied for at least 51 percent of the year. Seasonal homes and rental units do not qualify. To qualify as a small business, the total wastewater flow rate may not exceed 5,000 gallons per day. Also, an inspection of the system by a plumbing inspector or approved county representative is required before a grant can be applied for.

Those who are eligible to participate in the rehabilitation program could receive up to $7,000. Grant funds are allocated on an annual cycle. However, if an applicant is denied, he is still required to correct the failing private sewage system. The county submits an annual application to the Wisconsin Department of Commerce by January 31 for all individuals who have applied since the previous February 1. The Wisconsin Department of Commerce makes grant awards for applications received by January 31 in the following fiscal year or after July 1.

Chapter 9

PUBLIC INVOLVEMENT

Public involvement is a critical component of any plan, and the *2002 Brown County Sewage Plan* is no exception. Successful long-term implementation of a plan is often dependent upon the extent of public participation. Without public understanding and support of a plan's goals, objectives, policies, and recommendations, implementation, if it is achieved at all, will only occur in a haphazard and inefficient manner.

The State of Wisconsin realizes this and, primarily for that reason, has included within Administrative Code NR 121 the requirement that to receive Wisconsin Department of Natural Resources approval of an areawide water quality management plan, the plan (and its various elements) must be subjected to a public participation process, including, at a minimum, a public hearing. NR 121 also defines the public participation process as the implementation of activities developed to involve individual members of the public, local government officials, and other stakeholders in the areawide water quality management process. This process normally includes both public meetings and public informational hearings.

Opportunities for public involvement in the preparation of the County sewage plan included:

- The formation of the Brown County Sewage Plan Update Steering Committee comprised of one representative from each community within Brown County with a sewer service area, two representatives from the Brown County Planning Commission Board of Directors, an environmental/stormwater management representative, a Brown County Zoning Department representative, and four non-voting members consisting of two staff members from the Wisconsin Department of Natural Resources and two staff members from the Brown County Planning Commission to provide direction to and oversight of County staff during the preparation of the update to the plan.
- A listening session held by the Brown County Planning Commission prior to preparation of the update to obtain comments and input on sewer service area planning issues from representatives of each community within Brown County with a sewer service area.
- Fifteen meetings of the steering committee which were open to the public and for which copies of the agendas and minutes of the meetings were provided to the chief elected officials of the communities impacted by the proposed plan.
- Public hearing held on July 10, 2002, and March 5, 2003.
- July 10, 2002, November 6, 2002, December 4, 2002, and March 5, 2003, meetings of the Brown County Planning Commission Board, which were open to the public to discuss and act on the updated sewage plan.

After approximately 1 year of work and 15 meetings of the steering committee, the *2002 Brown County Sewage Plan* was approved by the Brown County Sewage Plan Update

Steering Committee at its June 18, 2002, meeting. A copy of the minutes of the meeting at which the steering committee approved the plan is included in Appendix G.

A copy of the minutes of the July 10, 2002, public hearing is also included in Appendix G. It can be noted that of the 13 people who spoke at the hearing, 10 spoke in favor of the plan. Also included is a copy of a letter from Roger Clark, attorney for the Town of Scott, commenting on the Town's sewer service area and how that area should be affected by annexation.

On July 10, 2002, at a meeting held immediately after the public hearing, the Brown County Planning Commission Board of Directors acted to approve the plan as submitted and to forward that plan to the Wisconsin Department of Natural Resources for review and consideration. A copy of that meeting's minutes is also included within Appendix G.

However, by letter dated October 24, 2002, the DNR indicated that numerous concerns had to be addressed before they could approve the plan. Thus, appropriate changes were made to the plan and were submitted to and approved by the BCPC Board of Directors on December 4, 2002.

By letter dated February 4, 2003, the DNR again indicated that various changes to the plan would be necessary before the DNR would approve the plan. Therefore, based upon the findings of conversations with DNR staff, appropriate changes were made to the plan, were submitted to the BCPC Board of Directors and affected communities for review and consideration, were subjected to comment at a public hearing held March 5, 2003, and were subsequently approved by the BCPC Board of Directors on March 5, 2003.

The minutes of these meetings and the public hearings and correspondence are also included in Appendix G.

Appendix A

FEDERAL AND STATE WATER QUALITY PLANNING

THE CLEAN WATER ACT

In 1972, in response to growing public concern about serious and widespread water pollution, the U. S. Congress passed Public Law 92-500. This sweeping revision of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act, represented a major change in federal water pollution control law. Under the direction and oversight of the Environmental Protection Agency (EPA), it is the primary federal law that protects our nation's lakes, rivers, acquifers, and coastal areas.

The Clean Water Act's primary objective is to restore and maintain the integrity of the nation's waters. This objective translates into two fundamental national goals:

1. Eliminate the discharge of pollutants into the nation's waters.
2. Achieve water quality levels that are fishable and swimmable.

While the Clean Water Act retained and strengthened the previous federal system of water quality standards, it more importantly changed the course of the whole national clean water effort by requiring:

- Three phases of nationally uniform industrial effluent limitations.
- Special controls over severely toxic pollutants.
- National Pollutant Discharge Elimination System (NPDES) permits for all point sources of pollution.
- National effluent limitations for municipal discharges and providing an expanded federal program of financial assistance to local governments for planning and construction of wastewater treatment facilities.
- Comprehensive river basin and regional water quality planning for both point and non-point sources of pollution.

In requiring comprehensive river basin and regional water quality planning, Congress recognized that some water quality problems are so complex or severe that they can't be solved by technology alone. For this reason, Congress incorporated the areawide waste treatment management planning process under Section 208 of the Clean Water Act. This process provides the EPA, states, and local units of government a planning tool to help address water quality management issues in a way that is socially acceptable, economically feasible, and environmentally sound.

A Section 208 regional or areawide plan offers comprehensive solutions to many related problems affecting water pollution. It can encompass one or more facility plans and facility planning areas. It builds upon the contents of local, regional, and state plans by including consideration of the impacts of land use and development. It considers the combined effect of all wastewater treatment facilities within its planning area. Additionally, it must include:

- A water quality assessment, which includes a description of the monitoring upon which the assessment is based.
- An identification of applicable water quality standards and stream classifications.
- An identification of waste load allocations for area waters.
- An identification of wastewater treatment facility improvements necessary to meet water quality standards.
- A means to properly manage sludge disposal.
- A means to identify and control nonpoint source pollution.
- Projections of population growth and wastewater loadings for a 20-year time span.
- Delineation of sewer service and planning area boundaries.
- An identification of the agencies responsible for implementation of the plan.
- An identification of the financing necessary to carry out the recommendations of the plan.

As previously noted, Section 208 of the Clean Water Act incorporates local input into this long-range planning effort. One of the means used to encourage that local involvement includes a management structure that requires:

- Designation of 208 planning areas by the state governor, with input from local elected officials and approval by the EPA.
- Designation of 208 planning agencies by the governor and approval by the EPA.
- Preparation of the 208 plan by a designated agency, with participation and oversight provided by appropriate state agencies and approval by the governor and the EPA.
- Implementation and administration of the plan by the designated agency, with participation and oversight provided by appropriate state agencies.

AREAWIDE WATER QUALITY MANAGEMENT PLANS

Wisconsin's water quality management program prior to the Clean Water Act revolved around an objective to improve and protect the quality of state waters, but under the Clean Water Act, the state's water quality management program took on new meaning and direction. Specifically, new and more concrete standards for clean water were required, greater emphasis was placed on addressing nonpoint source pollution, and long-range planning became more important.

In response to the Clean Water Act, the governor in 1974 directed that areawide water quality management planning be undertaken for the three most complex and heavily urbanized areas of the state (Dane County, Southeastern Wisconsin, and the Lower Fox River Valley area). The local planning agencies designated to undertake that planning included the Dane County Regional Planning Commission for Dane County; the Southeastern Wisconsin Regional Planning Commission for Southeastern Wisconsin; and the Fox Valley Water Quality Planning Agency for the Lower Fox River Valley area. The governor also directed that areawide water quality management planning be undertaken

for 18 additional river basins located throughout the state and designated the Wisconsin Department of Natural Resources (DNR) as the agency responsible for that planning.[27]

Furthermore, under Chapters 144 and 147 of the Wisconsin State Statutes and NR 121 of the Wisconsin Administrative Code, Wisconsin's approach to areawide water quality management planning specified that such plans must include a sewer service area planning component. These state statutes and administrative codes further specified that in addition to the previously identified "designated areas," sewer service area planning would be required in "non-designated areas," defined as urban areas with populations exceeding 10,000 people or with sewage treatment facilities that treat more than 1.0 mgd. While sewer service area planning in the "designated areas" was assigned to the previously noted local planning agencies, such planning within the "non-designated areas" was assigned to the DNR.

As set forth in NR 121, sewer service area planning is a process designed to anticipate a community's need for wastewater treatment. It is intended to protect communities from adverse water quality impacts through the provision of cost-effective and environmentally-sound wastewater treatment, and it is intended to be a continually ongoing process with constant local input, review, and revision.

Wisconsin has been preparing areawide water quality management and sewer service area plans since the late 1970s.

[27] Included within these 18 designated river basins were the Lower Fox River, the Upper Fox River, the Manitowoc River, and the Twin-Door-Kewaunee basins, which between the four of them encompass all of Brown County.

Appendix B

ONSITE WASTEWATER SYSTEMS

BROWN COUNTY ONSITE SYSTEM EXPERIENCE

The availability of onsite systems is dependent upon soil type. Within the planning area, the holding tank is considered a system of last resort. They are allowed only when soil conditions are unsuitable for a soil absorption unit. Soil absorption system selection is currently based upon various limiting conditions. In-ground and at-grade component type systems may or may not utilize pressure distribution depending on specific site conditions, and mound components are always pressurized. In the planning area, most of the soil absorption systems installed are in-ground gravity (conventional) or mound systems.

Brown County Code requires periodic inspection of all systems installed on or after January 1, 1990. A student intern has been hired annually since 1990 to randomly observe systems installed prior to 1990. The survey results provide documentation relative to the performance of onsite systems in Brown County. The summer intern is responsible for increasing awareness of and compliance with State Code NR 113 and Com 83 through public contact. The goals of increasing awareness and compliance with regulations are achieved by educating the public and offering information to them.

Holding Tanks

The holding tank is one system that offers an effective means to collect and store waste until it can be properly treated at a wastewater treatment facility. Unfortunately, the effectiveness of holding tanks can be eliminated by alterations or service through improper channels.

The public health hazards associated with untreated holding tank waste are well known. There are approximately 40 types of viruses and 1,500 types of bacteria in holding tank wastes. These can cause Hepatitis, Meningitis, Cholera, Salmonella, Dysentery, and other illnesses. Proper disposal of holding tank waste is vital to ensure that individuals do not become ill by coming in contact with improperly handled wastes. In addition, potential contamination of surface water and groundwater can occur if holding tank wastes are not properly treated.

As of December 31, 1995, the County had 1,389 recorded holding tank units. For each site served by a holding tank, a holding tank servicing contract between the homeowner and a licensed pumper is required. The pumper agrees to send to the County twice a year the number of gallons of wastewater that it pumps from the site along with the location of disposal. This gives the Brown County Zoning Administrator's Office a means to chart holding tank activity throughout the County. These reports are also used to choose what sites to survey. Taking a yearly average of wastewater generated per household and comparing it to the unit pumping reports that the Brown County Zoning Administrator's

Office receives makes the task of picking what sites to be surveyed easier by choosing the sites that pump below this average.

Table B-1
Sanitary Permits Issued 1990 Through 1995

Municipality	Alternative		Conventional		Holding Tanks		Total
	New	Repl	New	Repl	New	Repl	
Village of Allouez	0	0	0	0	0	0	0
Village of Ashwaubenon	0	0	0	0	0	0	0
Village of Bellevue	11	11	0	1	12	9	44
City of De Pere	0	0	0	0	0	1	1
Town of Eaton	44	20	2	1	12	14	93
Town of Glenmore	20	23	0	2	7	16	68
City of Green Bay	7	5	10	3	15	12	52
Town of Green Bay	19	15	51	3	18	10	116
Village of Hobart	58	29	98	32	40	9	266
Town of Holland	17	21	4	3	5	3	53
Village of Howard	6	7	21	14	10	19	77
Town of Humboldt	17	22	2	1	26	15	83
Town of Lawrence	47	21	8	6	54	23	159
Town of Ledgeview	58	16	5	5	53	15	152
Town of Morrison	14	17	7	11	3	10	62
Town of New Denmark	49	21	13	5	4	3	95
Town of Pittsfield	38	22	70	15	2	18	165
Town of Rockland	92	25	6	2	14	3	142
Town of Scott	18	6	7	1	15	10	57
Town of Suamico	80	17	273	46	25	14	455
Town of Wrightstown	54	33	4	1	15	5	112
Village of Wrightstown	3	1	0	0	1	2	7
Total	652	332	581	152	331	211	2,259

8 sanitary permits were issued for repair of mound systems.
44 sanitary permits were issued for reconnection of onsite waste systems.
25 sanitary permits were issued for renewal of sanitary permits.
8 sanitary permits were issued for replacement of tanks only.
1 sanitary permit was issued for a privy-type system.
2,345 sanitary permits were issued during this 6-year period.

The annual selection process to determine where the inspections would occur begins with filing all pumping reports for the County. The process continues by withholding all sites that pumped limited gallons of wastewater for the year. From this total, the list is narrowed by looking at three different characteristics. These include a considerable drop in the amount of wastewater that was pumped from the previous year, past inspections that called for a re-inspection, and structures that pumped no gallons for the year. After this process, for example, 196 sites remained for inspection in 1995. All survey sites are plotted on maps of the town, village, or city that they were in and the top portion of the

Holding Tank Inspection Reports forms are filled out.

Over the three years of inspections from 1993 to 1995, several items were noted while at each holding tank site. As a result of recorded data, several trends can be seen regarding either holding tank violations or improvements in the maintenance of the holding tanks. Beginning in 1994, there has been a decrease in the number of sites either abandoned or not found. In 1994, 194 holding tanks were inspected and 16, or 8.2 percent, were abandoned or not found, while in 1995, it decreased to 2 out of 196 inspected tanks, or 1 percent.

There has also been a small decrease in the amount of holding tanks converted to public sewer. In 1993, under 10 percent of holding tanks inspected were converted. The exact amount is unknown due to differences in each inspector's method of gathering data. This amount decreased to 5 percent, or 9 out of 194, in 1994 and, finally, to 1 percent, or 2 out of 196, in 1995. This slow decrease in conversion to public sewer should not be viewed as a concern since each conversion is weighed on the basis of cost-effectiveness and can vary greatly from year to year.

On the other hand, the amount of holding tanks still in need of servicing is very high. "In need of servicing" means the holding tank is in violation of state or county regulations. This typically includes a missing lock, chain, warning label, or a warning system that is not operational. In addition, any holding tank in need of pumping was also classified as needing servicing. In 1993, 85, or 50 percent of 169, holding tank inspections were found to be in need of servicing. This percentage increased in 1994 when 153 out of 194 inspections, or 78.9 percent, were found to be in need of servicing. By 1995, the percentage had decreased to 69 percent, or 136 out of 196 inspections. Hence, it appears that continued intensive inspections and monitoring of holding tanks is warranted. Table B-2 reveals detailed inspection data by community for the years 1993 through 1995.

Finally, several owners of inspected holding tanks were found to be in serious violation of state and county codes for discharging effluent to the surface of the ground. Although an exact number of violations is not available for 1993, it should be noted that several survey sites had illegal pumping occurring. This usually entailed direct pumping of wastewater onto nearby lands or water bodies. In 1994, a total of 15 holding tanks, or 8.9 percent of 194, were reported for committing this code violation. A small decrease in 1995 shows 13, or 7 percent of 196, inspections were discharging effluent to the surface. Each of these violations was documented with photographs for proof of violation and each was sent notices stating they must comply with State Code NR113 and county code or face a possible monetary forfeiture. It is important to note the difficulty of revealing these types of serious violations. The evidence can be easily covered up by the violator prior to inspection. It can be expected through experience that the rate of these occurrences is much higher than can be accurately reported.

Table B-2
1993-1995 Holding Tank Summary for all Inspections Made

	1993				1994				1995			
	A	**B**	**C**	**D**	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**
Allouez	0	-	0	0	0	0	0	0	0	0	0	0
Bellevue	3	-	0	3	6	0	0	5	8	0	0	7
Eaton	13	-	0	11	18	0	0	16	12	1	0	8
Glenmore	8	-	0	8	9	5	0	4	8	0	0	8
C. Green Bay	9	-	0	2	2	1	0	1	4	0	0	2
T. Green Bay	7	-	0	4	11	0	1	11	13	0	0	8
Hobart	8	-	0	7	11	2	0	5	15	0	0	11
Holland	10	-	0	9	13	1	0	13	8	0	0	7
Howard	11	-	1	7	5	0	0	3	10	0	0	8
Humboldt	13	-	0	7	24	3	0	25	16	0	0	14
Lawrence	20	-	2	6	26	2	8	15	18	0	0	13
Ledgeview	8	-	0	2	10	0	0	8	15	0	1	10
Morrison	4	-	1	2	8	0	0	10	4	0	0	6
New Denmark	5	-	0	3	10	0	0	11	10	0	0	10
Pittsfield	7	-	0	2	4	0	0	3	8	0	0	4
Rockland	3	-	0	3	7	1	0	5	11	0	0	4
Scott	19	-	12	2	4	0	0	1	5	0	1	2
Suamico	16	-	1	3	12	0	0	8	18	0	0	9
T. Wrightstown	5	-	0	4	14	1	0	9	13	1	0	5
TOTAL	169	unk	17	85	194	16	9	153	196	2	2	136
% of Holding Tanks Inspected			10.1	50.3		8.2	4.6	78.9		1	1	69

Column Code
A = number of holding tanks inspected
B = number of holding tanks abandoned or not found
C = number of holding tanks converted to public sewer
D = number of holding tanks in need of servicing (pumping, missing lock, chain, warning label, etc.)

Source: Brown County Zoning - Summer Intern Private Sewage System Reports

Other trends that the holding tank inspections revealed were that people who were not previously surveyed seemed as likely to be in violation when compared to owners who were previously in violation. This could be due to the fact that the people never surveyed were unaware that the inspection was forthcoming or did not understand certain aspects of the rules governing the use of their holding tanks. Generally, the owners who were notified of violations admitted they were aware of the situation and had a reason for the violation existing. This was the case with the holding tanks not being properly locked and labeled. Complaints ranged from the weatherization of locks throughout the year to not knowing where to purchase warning labels for the tanks(s).

Table B-3 shows the accumulated totals for the pumping reports submitted to the Brown County Zoning Administrator's Office. Utilizing the 1994 figure of 30,067,629 gallons reported as hauled by licensed pumpers, an estimated 28,011,171 gallons of holding tank waste are unaccounted for as depicted by Table B-3. This figure is based on a rather conservative 45 gallons per capita use figure. It is clear that based on the survey findings and the results of Table B-3, the use of holding tanks presents a serious enforcement challenge to the Brown County Zoning Administrator's Office. Detailed inspection data by community from 1993 to 1995 is available from the Brown County Zoning Office.

Table B-3
Estimated Holding Tank Wastewater Generated
vs. Holding Tank Wastewater Pumped

	1	2	3	
Number of Holding Tanks as of 1994	Number of People Using Holding Tanks Annually	Number of Gallons Generated From Holding Tanks	Number of Gallons Hauled in 1994	Unaccounted for Wastewater from Holding Tanks
1,360	3,536	58,078,800	30,067,629	28,011,171

1 2.6 persons per household
2 45 gpcd assumed for onsite wastewater generation
3 Figure taken from 1994 Sanitary and Land Use Report - Holding Tank Pumping Report

Mound Systems

Mound systems were developed in the early 1970s at the University of Wisconsin-Madison. The system is available to sites that are not suitable for conventional systems. In-ground components require a minimum of 44 inches of suitable soil, whereas mound systems require as little as 6 inches of suitable soil in unique situations. This system represents an effective method to treat wastewater in the rural areas of the planning area.

The first step in building a mound is to choose a certified soil tester. Soil tests and proper location are prerequisites to installation. As stated above, there must be at least 6 inches of suitable soil for a mound. In addition, the system has to be placed perpendicular to the natural slope of the property. Installation can begin once a site has been chosen, a soil test completed, the plans have been approved by the state, and a sanitary permit has been obtained.

The system consists of three major components: the septic tank, pump or dosing chamber, and the mound. The septic tank is the first area of treatment. The waste from the home is discharged to the tank, and the solids are allowed to settle out. A process of pathogen reduction and biological consumption of sewage also occurs within the septic tank. Two baffles (inlet and outlet) restrict the solids from entering the second area of treatment. This area is the dosing or pump chamber. It receives the effluent from the septic tank and pumps it out to the final component, the mound.

The mound is constructed by first removing vegetation from the surface and then scarifying the area. These actions make for an easier transfer of liquid from the mound to the original soil. This is followed by the construction of a calculated depth of specifically uniform sand below a dispersal cell that will become the key ingredient in final treatment of the septic tank effluent. A semipermeable material is placed over the dispersal cell to keep particles out of the aggregate while still allowing water to filter through. The mound is finally covered with a light fertile material at least 6 to 12 inches thick to promote oxygen transpiration into the mound and vegetation on top of the mound. A strong, healthy vegetative cover over the mound adds protection from frost penetration and aids in the removal of liquid by evapotranspiration.

Once constructed, the water is pumped from the dosing chamber to the mound through a forcemain. This leads to a specially designed pressure distribution network of perforated PVC pipes. Once in the mound, the effluent begins the final stage of treatment.

The effluent flows into the dispersal cell where it is evenly dispersed. Below the cell, the effluent enters the sand treatment media where the water is further treated by highly efficient aerobic bacteria. In addition to traveling down, the effluent also flows with the natural slope of the property. The down-slope side of the mound is referred to as the toe.

Site surveys in Brown County contained three areas of observation, which remained fairly consistent from 1994 to 1995. The first was to ask residents of the property questions pertaining to the amount of use of their system. For example, residents were asked the number of people living in the home, amount of laundry done per week, service routine, etc. If nobody was home, this section was skipped. Next, the septic tank and pump chamber were inspected for code compliance and proper functioning. The final item inspected was the mound. Signs of fatigue or failure were obtained by looking in the observation tubes for liquid, inspecting the mound's surface for effluent "breaking out," and soft spots near the surface. Any signs of fatigue or failure were verbally expressed to the owner or a note was left to call so the problem could be discussed. In addition to this, in 1994 and 1995 each property owner was left a copy of the pamphlet "Taking Care of Your System," and, when possible, the document was discussed with the owner.

In 1994 and 1995, 103 and 100 mounds were inspected respectively. Out of the 103 inspected in 1994, 20, or 19.4 percent, were fatigued, and 5, or 4.9 percent, were found to have effluent breaking the mound surface and were considered failing. In 1995, 24 showed signs of fatigue, and 5 of the 100 mounds surveyed were found to be failing. The majority of failing mounds in Brown County can be attributed to one or a combination of three conditions. The failing mound may have been overloaded with wastewater for a period of time, the wastewater concentration may have been beyond the capabilities of the mound to consume, or one of many various components of the mound may not have been properly maintained.

Inspection of mounds also included checking the septic tanks or pump chambers for

being unlocked or unlabeled. In 1994, 46 of the 103 mounds surveyed had unlocked or unlabeled pump chambers and septic tanks, but in 1995, there was a considerable decrease with only 14 out of 100 mounds having this same violation. This decrease in violations may be due to the Sewage Disposal System Inspection Program, which has increased awareness in maintenance of private sewage systems. In any event, continued monitoring of mound systems throughout Brown County appears both cost effective and warranted.

As indicated by Table B-1, 652 sanitary permits were issued for mound-type systems from January 1, 1990 through December 31, 1995 for new construction. In fact, more mound systems were installed during this period than conventional systems. It is probable that mound-type systems will accommodate a large percentage of rural development needs over the next 20 year planning period.

Conventional Systems

Conventional systems are built in areas that have at least 44 inches of suitable soil before a limitation is reached. In this case, the waste that is generated from the structure drains into a septic tank. Here the solids from the effluent are allowed to settle out through use of an inlet and outlet baffle that help restrict them from entering the drainfield. As the water level in the tank increases, it is gravity-fed into the drainfield or a pump chamber. A pump chamber is necessary if there is a limitation in elevation that needs to be overcome.

Once in the drainfield, the wastewater is dispersed through a perforated pipe. This pipe is surrounded by a stone aggregate or pre-manufactured leaching chamber that evenly disperses the effluent to the soil so it can be properly treated.

In the case of the conventional system, as with the mound system, the survey included two types of drainfields: bed and trench. A trench system is a trench or a combination of trenches one to five feet wide that are cut into the ground, each holding one distribution pipe. A bed is a drainfield where a combination of distribution pipes are laid in an excavated quadrilateral area. In this case, the distribution pipes are placed from three to six feet apart. Whether it is a trench or bed design, a vent tube is connected into the drainfield and routed to the surface. This tube allows for oxygen flow through the drainfield, aiding in the treatment of wastewater. On larger systems, there may be more than one vent. It is important to note that significant changes to the state private sewage systems code have resulted in various changes to the conventional system configuration. The addition of new methods of design and additional appurtenances, such as lateral cleanouts, observation pipes, and combination venting methods, will give a new look to the common drainfield approved after July 1, 2000.

Conventional systems were not surveyed in the past. Therefore, only 1995 data is available for review. The age of the 53 conventional systems surveyed in the summer of 1995 range from 15 to 23 years old. Two of the systems were pre-1970 with the exact date of installation unknown. The survey indicated that only 1 out of the 53 systems was found to be failing (see Table B-4). It is important to note that the survey conducted on

these systems did not take into consideration pre-existing soil conditions. Retroactive changes in the siting criteria used by certified soil testers may now show a percentage of these systems to be failing by statutory definition.

In addition, seven of the systems displayed signs of fatigue, such as effluent in the vent tube or soft, spongy areas on the surface of the system (see Table B-4). A total of 12 sites were found to be in violation for having their septic tank unlocked or unlabeled. Although inspection data is limited, it appears that the need to continue a periodic inspection program is warranted.

As indicated by Table B-1, 581 sanitary permits were issued for new conventional systems from January 1, 1990, through December 31, 1995. A majority of the permits were for installations in the sandy regions of the Village of Hobart and Towns of Suamico and Pittsfield. Although conventional systems will continue to provide onsite treatment for future rural development, its commonality may subside since the availability of choice lands in the northwest region of the County, where these types of systems are common, may begin to decline over the planning period.

Table B-4
Summary of 1995 Failing and Fatigued Conventional Systems*

Number of conventionals inspected	53	
Number of fatigued systems	7	13.2 percent
Number of failed systems	1	1.9 percent

*1993 and 1994 inspection data not available.
Source: 1995 Brown County Zoning - Summer Intern Inspection Report

Inspection Summary

Based on the three systems surveyed, it could be assumed that the holding tank is the most effective system since all waste is treated by a treatment plant, but it is also the least desirable. The cost of pumping a holding tank is incurred by the owner. Unfortunately, this cost is sometimes diverted by improperly discharging wastewater to the surface. In addition, the inspection surveys indicate a high percentage of holding tanks require some form of servicing. Furthermore, estimates based on assumed water use indicate a concern that a significant amount of holding tank waste never makes it to a treatment facility. Therefore, offsite wastewater treatment systems are generally more desirable for the homeowner, as well as the County.

Mound soil absorption systems are generally effective at treating effluent. However, these systems appear more likely to show signs of fatigue or failure than conventional gravity systems. It is important that the systems be sized accordingly to handle the maximum use that the system will be exposed to over its life. In addition, it is important that activity be restricted over the absorption area of these systems. Driving a vehicle over the system can compact the soil and reduce the capacity of the system to treat effluent. It is important to note that the mound system continues to evolve in design and

function. It can be expected that the rate of mound failure will decrease with time as design techniques and installation methods improve.

Preventative maintenance measures can be taken in addition to restricting activity on the surface. The most important is to have the septic tanks pumped regularly. Pumping removes the solids out of the systems that over time can enter the drainfield and clog the soil pores that are vital to the operation of the system. Other products exist that can help increase the longevity of a system. Filters are installed on the outlet of a septic tank that restrict the flow of solids into the drainfield. There are also filters available that attach to the wash machine that will filter out lint and debris from clothing that can clog a drainfield. The most effective way to increase the life of a system is by conserving water use. All in-ground systems eventually become fatigued and failure occurs soon after. Conservation, along with any of the preventative measure listed above, can delay the large cost of replacing a system. In Brown County, it is required that all soil absorption systems installed after January 17, 1990, be pumped and inspected every three years or when the parcel is surveyed or sold. The code allows for evaluations and comparisons to be made to help monitor the program and ensure private system treatment effectiveness.

Other Individual Onsite or Cluster Systems

Sand Filter Systems

Sand filter systems consist of one or more beds of granular material designed to maintain aerobic conditions. Flow is intermittently dosed over the surface of the filter through a network of distribution pipes. A collection of pipes installed under the sand filter are used to collect the effluent for disposal in a soil absorption system.

There are three basic design variations of sand filters: buried, open intermittent, and re-circulating. Effluent from properly designed and maintained sand filters typically have BOD concentrations below 10 mg/l.

Subsurface flow systems allow wastewater to enter one end of the wetland, which passes through the plant root system, and then out the other end. Emergent wetland plants, such as rushes, cattails, reeds, and bulrushes, are typically used. These plants treat wastewater as it passes through the root zone.

Hydroponic or nutrient film systems are systems in which treatment occurs by plants which are suspended in the wastewater. The plants convert organic material and nutrients into plant mass while a film of micro-organisms growing on the plant roots account for the remainder of the biological breakdown process. Constructed wetlands are not typically used as individual onsite disposal systems due to cost and space requirements. If ample suitable area exists, it appears more economical that a constructed wetland would serve a group or cluster of homes as opposed to an individual site. Brown County currently does not have any constructed wetland systems.

Aerobic Treatment Units

Technology and equipment utilized by large municipal treatment plants can also be engineered on a smaller scale. These systems typically include all necessary treatment steps in a pre-assembled "package." Package systems can be separated into two groups: fixed film and suspended growth. Fixed film systems utilize a film or layer of biological material, which is attached to a growth media. The media is intermittently dosed with wastewater. During this process, organic material is converted into cell masses. Once the film weight exceeds the force holding it to the media, a portion of the film will tear off from the media surface, an action known as sloughing. Sloughed biofilm is further degraded in another section of the unit, which is maintained in an aerobic state.

Drip Line Irrigation Systems

Used primarily in areas with soil limitations at a depth greater than or equal to 30 inches, this system utilizes technology common to more arid regions and also in the water irrigation industry. It consists of a narrow diameter tube which intermittently distributes very small quantities of highly filtered or pre-treated effluent to the shallow organic zone of the soil. This system utilizes the well structured and more permeable upper column of soil where the roots of the native vegetation consume and treat the effluent. The Drip Line irrigation system is a low impact installation but more expensive than the customary or passive type systems of the past.

Disposal of Domestic Septage

Administrative Code NR 113 was adopted in 1987 to regulate septage disposal. NR 113 requires licensed pumpers to take all wastewater from holding tanks within 20 miles (shortest direct route by road) of a publicly-owned treatment works (POTW) that is willing to accept, treat, and dispose of the wastewater (at a cost less than or equal to $16 per 1000 gallons for 1996 to 1998, $18 per 1000 gallons for 1999 to 2001, and $20 per 1000 gallons for 2002 to 2004) to that POTW for treatment. Note that this NR 113 requirement does not apply to Shawano and Oconto Counties bordering Brown County.

The Green Bay Metropolitan Sewerage District (GBMSD) and City of De Pere treatment plants accept septage. In addition, most of the smaller POTWs in Brown County also accept septage. Therefore, all of the planning area is within a 20-mile driving distance to a POTW which accepts septage. This means that disposal of wastewater from all holding tanks in the planning area must be discharged into a POTW all year long. Land disposal of holding tank wastewater by licensed pumpers is not allowed. Occasionally, approval may be granted for a licensed septage hauler to lime stabilize the holding tank waste and deposit a small portion of it in an approved manure storage area for future land spreading.

In addition to the above requirement, disposal of wastewater from septic tanks located within the POTW's sewer service area must be at that POTW. Disposal of wastewater from holding tanks beyond the POTW's sewer service area but within the POTW's planning area must be at that POTW if the plant will accept the wastewater and if the cost figures are met. If the plant does not accept the septage or does not meet the cost figures, then the disposal can occur at any plant within a 20-mile radius of the pumped

holding tank.

If the wastewater from holding tanks and other onsite systems is mixed in the same licensed pumping vehicle or if wastewater from within and beyond the 20-mile radius or POTW planning area is mixed in the same vehicle, then all of that wastewater must be taken to a POTW for disposal. This sewage plan is required to show sewer service areas, POTW planning areas, and, as also required by NR 113, POTW holding tank service areas.

The Green Bay Metropolitan Sewerage District treatment plant in Brown County is the only facility that has design capacity in their treatment works for septage disposal. However, most have capacity for treatment of septage. When a POTW does designate specific capacity for septage disposal or when a POTW contracts for receipt of septage from a large (greater than 3,000 gallons per day) onsite system, service areas must be amended to reflect the additional holding tank service areas. Currently, only four onsite systems produce greater than 3,000 gallons per day of septage in Brown County.

Holding tank service areas are totally separate from the sewer service areas. Identification of holding tank service areas will require no calculation of projected acreages needed for such developments because these are beyond the sewer service area. Amendments to holding tank service areas will require no swap of acreages. These amendments will require the approval of the Brown County Planning Commission (after a suitable contract is approved by the receiving POTW). The Department of Natural Resources will approve holding tank service area amendments as they occur.

POTW planning areas are based upon facilities plans. Previous facilities plans were reviewed, and on-going facilities planning efforts were added to generate the planning areas as delineated in this report. It can be noted that there is overlap in some cases between POTW planning areas.

Soil Absorption System Problem Areas

In addition to the data obtained from the Brown County Zoning Administrator's summer intern inspection program, soil absorption system failures have been documented through request for replacement or failed systems. Limitations, such as high groundwater and shallow bedrock, significantly impact the type of replacement soil absorption system which can be used. In addition, older, confined lot sizes in rural areas pose a limitation to the type of replacement system which can be used. Furthermore, all environmentally sensitive areas shown on Map 6 are considered potential problem areas for soil absorption systems. Oftentimes, due to the degree of the limitations, only holding tanks can be approved as replacement systems in these areas.

Since 1980, several documented problem areas have been corrected through the development or expansion of public sewerage systems.

Operating sanitary districts created since 1980 to solve existing problem areas include Suamico Sanitary District #1, Scott Sanitary District #1, Town of De Pere (Ledgeview)

Sanitary District #2, Lawrence Sanitary District #1, Bayshore Sanitary District, Dyckesville Sanitary District, Morrison Sanitary District #1, New Franken Sanitary District, and Pittsfield Sanitary District #1.

Appendix C

SSA FORMULA

Residential SSA Land Area Calculation

	Year 2020 Population
-	Year 2000 Population
=	Incremental Population
x	Sewered Development Ratio
=	Sewered Population Allocation
/	Future Average Household Size
=	Occupied Incremental Sewered Households
x	Average Vacancy Rate
=	Total Incremental Sewered Housing Units
/	Average Residential Density
=	Incremental Net Residential Acreage

Non-Residential SSA Land Area Calculation[28]

	Year 2000 Non-Residential Land Use
/	Year 2000 Residential Land Use
=	Non-Residential Land Use Ratio
x	Incremental Net Residential Acreage
=	Incremental Year 2020 Non-Residential Land Use

Total SSA Land Area Calculation

	Incremental Net Residential Acreage
+	Incremental Net Commercial Acreage
+	Incremental Net Industrial Acreage
+	Incremental Net Transportation Acreage
+	Incremental Net Communication/Utility Acreage
+	Incremental Net Institutional/Governmental Acreage
+	Incremental Net Recreational Acreage
=	Future Net SSA Acreage Allocation
x	Sum of Market Flexibility
=	Incremental Year 2020 SSA Acreage Allocation

[28] This calculation must be done for all of the following land uses: commercial, industrial, transportation, communication/utility, institutional/governmental, and recreational, which are located within each community's current sewer service area.

Appendix D

SEWER SERVICE AREA METHODOLOGY

Step 1: Delineation of Existing Sewered Areas. Using information provided by the municipalities and sanitary districts and year 2000 aerial photographs, the areas presently served (as of December 2001) with sanitary sewer were identified. The information was then digitized into a large base map of Brown County. Geographic Information System (GIS) software packages (ArcCAD and ArcVIEW) were used to generate the final SSA maps. The ESAs and undeveloped areas within and adjacent to the sewer service areas were also plotted and acreages calculated.

Step 2: Demographics. Interim year 2020 population projections (based in part upon more recent year 2000 census data) were obtained from the Wisconsin Department of Administration for Brown County and its municipalities.[29] For the remainder of the planning area, which consisted of small portions of minor civil divisions located outside of Brown County, population projections were prepared by BCPC staff based upon extrapolation of information from such sources as local comprehensive plans, facility plans, and local development proposals.

The year 2000 population was then subtracted from the year 2020 population for each community in order to determine its incremental population. Incremental population represents the number of people envisioned to be added to each community between the year 2000 and the year 2020.

Step 3: Incremental Sewered Residential Development. The incremental population for each community with sewer service was then multiplied by its sewered development ratio to obtain the community's sewered population allocation. The sewered development ratio was determined by a comparison of sewered versus unsewered land divisions within each specific community between the years 1997 and 2001. However, for communities where recent facility plans had been developed and local sewered land division trends had not yet been fully established, population projections and allocations from those plans were also considered. Furthermore, for those communities which explicitly state in their adopted comprehensive plan or by some other formal and official means amend or create a community policy to guide the ratio of sewered versus unsewered development, the BCPC will use that specified rate instead for determination of the sewered population allocation within

[29] Based upon the recommendations of the staff of the Wisconsin Department of Administration's Demographic Services Center, the interim population projections used in this plan are to be replaced with the official population projections when they become available (anticipated during 2003). The Brown County Planning Commission will undertake an amendment of the county sewage plan at that time to revise the residential sewer service area calculations.

the *2002 Brown County Sewage Plan*. In such instances, BCPC staff will undertake an annual review of the actual land division trends within the community to ensure its compliance with its stated rate of sewered development. Should the actual average rate of sewered development fall below the established rate, the additional SSA acreage provided as a result of this approach will no longer be provided to the community. Sewered population allocation represents the number of additional people within the community envisioned to receive public sanitary sewer service by the year 2020.

The sewered population allocation was then divided by the future average household size for that community to obtain occupied incremental sewered households. The future average household size was determined by extending the rate of household size decline experienced by each community within the planning area between 1980 and 2000 to the year 2020. This rate was then applied to each community's year 2000 household size. Thus, for estimating the number of new dwelling units required to house the projected population increases between 2000 and 2020, average household sizes of between 1.94 and 2.67 were assumed. Occupied incremental sewered households represent the number of additional households within the community envisioned to receive public sanitary sewer service by the year 2020.

The occupied incremental sewered households were then multiplied by an average vacancy rate to obtain total incremental sewered housing units. The average vacancy rate of 3 percent was obtained from a review of past census data and long-standing housing trends. Total incremental sewered housing units represent the total number of additional housing units within the community (including unoccupied housing units) envisioned to receive public sanitary sewer service by the year 2020.

The total incremental sewered housing units were then multiplied by the County's average residential density to obtain incremental net residential acreage. The average residential density of 2.5 dwelling units per acre was based on the average size of lots (excluding outlots and street rights-of- way) created in Brown County between 1996 and 2000, which were served by public sewer. Incremental net residential acreage represents the amount of land necessary to accommodate the envisioned sewered residential development within the community for the next 20 years.

Step 4: Land Use Ratios. The findings of the year 2000 Brown County land use inventory were used to determine the relationship of non-residential land uses to residential land uses within the sewered portion of each community. That same relationship or ratio of land uses was then assumed for the future sewered areas. Furthermore, for those communities which explicitly state in their adopted comprehensive plan or by some other formal and official

means amend or create a community policy to guide the ratio of non-residential to residential land uses, the BCPC will use that specified ratio instead for determination of the year 2000 sewered land use ratios within the *2002 Brown County Sewage Plan*.

The incremental net residential acreage obtained in Step 3 was then multiplied by each pertinent Year 2000 sewered land use ratio within that community to obtain each incremental year 2020 sewered land use. The incremental year 2020 sewered land use represents the amount of land necessary to accommodate the envisioned sewered non-residential development (commercial, industrial, transportation, communication/utility, institutional/governmental, or recreational) within the community for the next 20 years.

The sum of the resultant incremental year 2020 sewered land uses was then added to the incremental net residential acreage to obtain the future net SSA acreage allocation for the community. The future net SSA acreage allocation represents the minimum amount of additional land necessary to accommodate the envisioned sewered development within the community for the next 20 years.

Step 5: Market Flexibility. The future net SSA acreage allocation for each community was then multiplied by a standard market flexibility factor. To provide an adequate amount of flexibility to the community in the sale and development of land within its sewer service area, a market flexibility factor of 75 percent was provided. This adjustment was applied to all communities equally to provide a means to account for those lands which, while technically developable, are for one reason or another unlikely to develop during the planning period. Specific examples include lands to which access cannot easily be obtained or provided, lands that are still maintained in agricultural or other uses and are not envisioned to be developed within the foreseeable future, and those lands for which development is undesirable due to location, price, or other constraint.

Step 6: SSA Acreage Allocation. The market flexibility factor noted in Step 5 was then added to the future net SSA acreage allocation obtained in Step 4. The resultant future gross SSA acreage allocation represents the total amount of vacant developable land allocated to the community for future sewered development.

APPENDIX E

SAMPLE

WWTP Flow and Loading Tracking Sheet

	Design	Current		Projected		Total		Available		Proposed Addition	
		Amount	% of Design	Amount	% of Design	Amount	% of Design	Amount	% of Design	Amount	% of Design
Flow (mgd)											
Annual Average											
Maximum Monthly											
Maximum Daily											
Maximum Hourly											
Peak											
BOD (lbs/day)											
Annual Average											
Maximum Monthly											
Maximum Daily											
TSS (lbs/day)											
Annual Average											
Maximum Monthly											
Maximum Daily											

Projected flows and loads to the GBMSD and De Pere WWTPs should be for that growth and development within their service areas projected during the next five years. Projected flows and loads to all other WWTPs should be for all growth and development within and planned to be within their service area. This shall include flows and loads from approved and pending sanitary sewer extension submittals, sewer service area amendments or updates, and any other planned development.

Upon completion of the above table, the applicant must answer the following question:

Does the current, projected, and proposed flows and/or loads exceed the design capacity of the WWTP within the next five years? (Provide calculations, including assumptions, if any, used to obtain the answer).

If the answer is yes, the applicant must obtain a resolution from the owner of the WWTP indicating that it will complete facility planning within one year, will implement that plan, and will thereby be able to provide the needed capacity within three years.

If the answer is no, no further information or action is necessary.

SAMPLE

Lift Station, Collector Sewer, and Interceptor Sewer Flow Tracking Sheet

	Design	Current		Projected		Total		Available		Proposed Addition	
		Amount	% of Design	Amount	% of Design	Amount	% of Design	Amount	% of Design	Amount	% of Design
Flow (mgd)											
Annual Average											
Maximum Monthly											
Maximum Daily											
Maximum Hourly											
Peak											

Projected flows to GBMSD or De Pere lift stations, collector sewers, or interceptor sewers should be for that growth and development within their service areas projected during the next five years. Projected flows to all other lift stations, collector sewers, or interceptor sewers should be for all growth and development within and planned to be within their service area. This shall include flows from approved and pending sanitary sewer extension submittals, sewer service area amendments or updates, and any other planned development.

Upon completion of the above table, the applicant must answer the following question:

Does the current, projected, and proposed flows exceed the design capacity of the lift station or sewer within the next five years? (Provide calculations, including assumptions, if any, used to obtain the answer).

If the answer is yes, the applicant must obtain a resolution from the owner of the sewer collection system indicating that it will complete facility planning within one year, will implement that plan, and will thereby be able to provide the needed capacity within three years.

If the answer is no, no further information or action is necessary.

Appendix F

PERMITTED USES WITHIN ENVIRONMENTALLY SENSITIVE AREAS

Natural Resource Feature	Permitted Uses
Navigable Waters	Utility crossings Road crossings
Wetlands	Utility crossings Road crossings Stormwater management facilities
Non-navigable Waters	Utility crossings Road crossings Stormwater management facilities Relocation and/or storm sewers (with stormwater plan)
Within 35′ of Navigable Waters	Utility crossings Road crossings Stormwater management facilities Managed rotational grazing Passive recreational facilities Minor landscaping
Floodways	Utility crossings Road crossings Stormwater management facilities Managed rotational grazing Passive recreational facilities Minor landscaping Minor clearing and grading
Within 100′ of Navigable Waters	Utilities Road crossings Stormwater management facilities Managed rotational grazing Passive recreational facilities Minor landscaping Minor clearing and grading Minor structures

Appendix F Continued

Steep Slopes	Utilities Road crossings Stormwater management facilities Farming Passive recreational facilities Minor landscaping Minor clearing and grading Minor structures
Wetland Buffers	Utilities Road crossings Stormwater management facilities Managed rotational grazing Active and passive recreation Minor landscaping Minor clearing and grading
Non-navigable Water Buffers	Utilities Road crossings Stormwater management facilities Managed rotational grazing Passive recreational facilities Landscaping Minor clearing and grading Minor filling and excavation
Channels of Concentrated Flow Buffers	Utilities Road crossings Stormwater management facilities Managed rotational grazing Passive recreational facilities Landscaping Minor clearing and grading Minor filling and excavation

Note: It is assumed that all other necessary permits and approvals have been granted for the above uses.

Appendix G

PUBLIC INVOLVEMENT DOCUMENTATION

MINUTES
BROWN COUNTY SEWAGE PLAN UPDATE
STEERING COMMITTEE
Tuesday, June 18, 2002
Room 115, UW Extension Office
1150 Bellevue Street
1:00 p.m.

ROLL CALL:

Keith Block	Exc	Dave Mau	X
Bill Bosiacki	X	Tom Meier	X
Richard Charles	X	Michael Pierner	Exc
Lyle DeQuaine	Exc	Mark Schauer	X
Gordon Ellis	Abs	Roy Simonson	X
Matt Greely	X	Hugh Thomas	X
James Havel	Abs	Ron Umentum	X
Joe Helfenberger	X	Will VanAble	X
Donald Hoeft	X	Carl Weber	Exc
Henry Klysen	Abs	Gerald Wesolowski	X
Joseph Linssen	X	Mike Wheeler	Abs
Jerry Lopas	X	Ed Wiesner	Exc

OTHERS PRESENT: Doug Martin for Jerry Lopas, Chuck Lamine, and Joel Dietl.

J. Dietl opened the meeting at 1:00 p.m.

1. Approval of the minutes of the May 7, 2002, meeting of the Brown County Sewage Plan Update Steering Committee.

   J. Dietl asked for comments or corrections to the May 7, 2002, minutes. There were none.

   A motion was made by J. Helfenberger, seconded by T. Meier, to approve the May 7, 2002, minutes. Motion carried.

2. Discussion and action concerning the final draft of the 2002 Brown County Sewage Plan.

   J. Dietl noted that only those pages revised since the last meeting had been provided to the committee members. Those changes, as usual, had been noted with additions highlighted and deletions struck out. J. Dietl noted that these changes primarily dealt with revisions due to comments and actions of the committee at its last meeting and that Table 12 had not yet been updated. A copy of the final draft SSA maps had been brought to this meeting for the committee members' use. J. Dietl asked for any comments.

R. Simonson stated that the text of the report regarding how SSAs should be identified does not match how the SSAs were actually determined. Confining SSAs to municipal boundaries is not sound planning, and sound planning is one of the major goals of the county sewage plan. He suggested that additional time be provided for formal review of this plan by the governing bodies of each local unit of government and that consideration of this plan by the Brown County Planning Commission Board of Directors be delayed until August.

J. Linssen stated that the Town of Ledgeview is very anxious to complete this plan, it does not want any more delays, and it wants the Brown County Planning Commission Board of Directors to consider the plan at its July meeting.

A motion was made by J. Helfenberger, seconded by R. Umentum, to approve the final draft of the *2002 Brown County Sewage Plan*. Discussion ensued.

R. Simonson noted that page 74 of the plan states that each SSA should have enough land to accommodate growth for 20 years, but as drawn, many SSAs do not.

J. Helfenberger noted that the plan is not perfect, but much time and effort has been put into it. Boundary agreements are important and can still be pursued under this plan, and such agreements would improve the plan.

R. Simonson noted that boundary agreements could be important and useful but are not encouraged in this plan. He also noted that this plan does not meet many DNR requirements.

M. Greely stated that this plan is not the appropriate place to require boundary agreements.

R. Simonson stated that this plan does not provide any control over inappropriate locations of sanitary sewers within SSAs and is contrary to Smart Growth comprehensive planning ideals and goals.

M. Greely noted that some checks and balances do exist, such as the rules and requirements the GBMSD has in approving sanitary sewer extensions.

J. Linssen called the question. A vote on the question was taken, with 14 ayes and 1 nay. A roll call vote on the motion to approve the final draft of the *2002 Brown County Sewage Plan* was taken. The motion passed on a vote of 13 ayes and 2 nays. Voting in favor of the motion were B. Bosiacki, R. Charles, M. Greely, J. Helfenberger, D. Hoeft, J. Linssen, D. Martin for J. Lopas, D. Mau, T. Meier, M. Schauer, R. Umentum, W. VanAble, and G. Wesolowski. Voting against the motion were R. Simonson and H. Thomas.

3. Other matters.

Chuck Lamine requested that each committee member review their appropriate SSA map and inform J. Dietl before leaving if any changes or corrections needed to be made. He also requested that documentation of any such changes be provided to BCPC staff by the end of the week.

J. Dietl noted that the county sewage plan will be presented to the Brown County Planning Commission Board of Directors at its July 10, 2002, meeting. If approved, it will then be sent to the DNR for approval.

C. Lamine and J. Dietl agreed that letters would be sent to all committee members and communities of the action of the Board of the Directors on this matter, of when the report is sent to the DNR, and of the DNR's comments or actions in response to the plan.

C. Lamine noted that this was the last meeting of the committee. Because the plan has been approved and the work of the committee has been completed, C. Lamine and J. Dietl thanked the committee for their assistance and perseverance.

J. Dietl also reminded everyone that sanitary sewer extensions would not be approved to the new areas of SSA until after the DNR approves the plan and after the BCPC receives the flow and loading information for each appropriate proposed new sewer extension/new SSA area.

4. Adjourn.

The meeting adjourned at 2:45 p.m.

HERRLING, CLARK, HARTZHEIM & SIDDALL LTD.

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OF COUNSEL:
Don R. HERRLING
Roger W. CLARK

June 24, 2002

Mr. Chuck Lamine
Brown County Planning Commission
City Hall-Room 608
100 N. Jefferson Street
Green Bay, WI 54301

RE: Sewer Service Allocations - Town of Scott

Dear Mr. Lamine:

As Attorney for the Town of Scott, I have become aware that new sewer service allocations will soon be finalized. It has also been explained that the effect of the changes will be as follows:

1. As to the VanderKelen Annexation (map attached as Exhibit "A") and the Madigan-Peters Annexation (map attached as Exhibit "B"), the sewer service allocation shall be made from the City of Green Bay's total sewer allotment.

2. The Town of Scott's allocation of sewer service area will be applied to areas other than the two annexations.

This scenario creates a problem for the development of these annexations since they will likely be returned to the jurisdiction of the Town of Scott. When they again become part of the Town, we are advised that the only way to provide them with a sewer service allocation will be to take areas already assigned to other property in the Town. This would create significant problems in making such a sewer service area amendment because property owners having been included in the sewer service area would suddenly be deprived of the ability to develop.

We believe the Brown County Planning Commission must consider two options.

1. In the event the annexed areas again become Town of Scott, any metropolitan service area allocations return with the lands when they revert to the Town's jurisdiction.

2. In the alternative, since they were already assigned sewer allocations when within the Town, those sewer service allocations should not be changed until the annexation proceedings are finalized.

Wis. Stats. 59.69(7) provides as follows: **"Continued effect of ordinance.** Whenever an area which has been subject to a county zoning ordinance petitions to become part of a city or village, the regulations imposed by the county zoning ordinance shall continue in effect, without change, and shall be enforced by the city or village until the regulations have been changed by official action of the governing body of the city or village, except that in the event an ordinance of annexation is contested in the courts, the county zoning shall prevail and the county shall have jurisdiction over the zoning in the area affected until ultimate determination of the court action. (Emphasis supplied)

Just as county zoning law provides for changes only after final resolution, we believe the sewer service allocation, by analogy, should be applied in the same manner.

The Town, through Scott Sanitary District No. 1, will be providing sewer service to these annexations. The law provides that where a Sanitary District provides service, the jurisdiction of the Sanitary District continues unless and until 50% of the district's patrons have been amended. Wis. Stats. 60.79(d)(1) provides as follows: "Any water or sewerage system, including all mains and all property of the system, shall belong to and be operated by the district or the city of village, in whichever the major portion of the patrons reside on the date of annexation or incorporation unless other provisions is made by agreement of the governing body of the city or village and the commission. (emphasis supplied)

As a result of the law and the operation of Wisconsin Statute, it is important for the Commission to plan for these contingencies.

Notice if also being given to the annexing parties, VanderKelen, Madigan and Peters, that the failure of the Commission to consider these contingencies may result in these properties being deprived of the sewer service allocations they enjoyed while in the Town.

Very truly yours,

Roger W. Clark

ROGER W. CLARK

RWC:JVT
Cc: Mark Schauer

MINUTES
BROWN COUNTY PLANNING COMMISSION
BOARD OF DIRECTORS
Wednesday, July 10, 2002
Room 604, Green Bay City Hall
6:30 p.m.

ROLL CALL:

Paul Blindauer	Exc	Greg Little	X
Keith Block	Abs	Dave Mau	X
Jennifer Brown	X	William Nabak	X
William Clancy	X	Gerald Nichols	X
Norbert Dantinne, Jr.	X	Bob Schlag	X
Ron DeGrand	X	James Schmitt	Exc
Paul Ehrfurth	X	Steve Schneider	X
Mike Fleck	X	Roy Simonson	X
Peter Harris	X	Gary Vanden Busch	Exc
Michael Hermes	X	Tim VandeWettering	X
Elaine Kittell	X	Carl Weber	X
Ron Kryger	X	Dave Wiese	X

OTHERS PRESENT: Andrea Beck, Joel Dietl, Cathy Larsen, Cole Runge, Larry Bechler, Everett Briggs, Jerry Lopas, Mike Donovan, Dale Doxtator, Bill Elman, Pat Fehrenbach, Steve Fewel, Mike Finn, Gary Forehand, Dean Freeberg, Ken Geurts, Jim Grassman, Matt Greely, Joe Helfenberger, Joe Hollister, Pat Kaster, Jesse Kirke, Joe Linssen, Len Madison, Lloyd McAllister, Anna McAllister, Bill Patzke, Tom Perock, Jesse Virlee, Don Wagner, Gerald Wesolowski, Merlin Zimmer, Paul Zimmerman, and others.

1. Public Hearing. Public hearing regarding adoption of the Brown County Sewage Plan.

J. Dietl called the public hearing to order at 6:30 p.m. and read the public hearing notice that appeared in the Press-Gazette on June 26, 2002, and July 3, 2002.

J. Dietl stated that the new plan has approximately twice as much undeveloped SSA land as the previous plan. Some of the major changes to the plan are:

- a major change to the ESA. The 100-year floodway plus 50 feet is now just the 100-year floodway;
- the addition of a 20-foot building setback from steep slopes that are 20 percent or greater;
- if the DNR finds a stream that is not shown on any map and has a drainage basin of 130 acres or more, a 10-foot setback buffer is then required; and
- the wetlands were not changed except for the 20-foot building setback from steep slopes that are 20 percent or greater.

J. Dietl stated that he is in receipt of a letter to Chuck Lamine from Roger Clark, Herrling, Clark, Hartzheim & Siddall, Ltd., on behalf of the Town of Scott. R. Clark requested that areas annexed from the Town by the City of Green Bay, if returned to the Town, not count against the Town's SSA acreage allocation. J. Dietl noted that a copy of the letter would be included in an appendix of the County sewage plan.

J. Dietl read off the names of the people who had registered as wanting to speak.

J. Wesolowski, representing the Town of Pittsfield Sanitary District #1, stated that he was a member of the technical committee for this plan. He feels that the plan preserves the rights of the smaller communities and recommends approval of it.

J. Helfenberger, Administrator of the Village of Hobart and a subcommittee member, stated that the committee had worked on the plan for about 1-1/2 years. The plan is not a perfect plan, but it does create a neutral balance and preserves the status quo. This plan will be looked at again in five years, and he would recommend its approval tonight.

M. Donavan, City of De Pere Alderman, stated that he has problems with the plan and is opposed to it.

P. Kaster, River City Realtors, stated that a lot of time and effort has gone into the drafting of this plan. Developers and various projects are being held up waiting for action on it. She recommended approval of the plan.

J. Linssen, subcommittee member representing the Town of Ledgeview, stated that the subcommittee discussed the various issues in great detail. The subcommittee voted to support the plan, and the Ledgeview Sanitary District and the Town of Ledgeview also support the plan. He recommended approval of the plan tonight.

K. Geurts, Town of Ledgeview Sanitary District, spoke in support of the sewage plan.

T. Perock, Town of Lawrence, spoke in favor of the plan. He stated that the subcommittee passed the draft plan with a 13 to 2 vote. As written, the plan is fair to all communities of Brown County and will control the quality of growth.

M. Greely, a subcommittee member and speaking on behalf of the Town of Lawrence, stated that the subcommittee had a lot of discussion and made a lot of compromises in order to have a plan that was fair to all. Changes can be made at the next drafting, but he felt that the plan before the Commission tonight should be approved.

J. Lopas, Engineer for the Village of Ashwaubenon and member of the subcommittee, stated that the Village of Ashwaubenon Board voted unanimously at their June 25, 2002, meeting to endorse the plan.

B. Patzke, Director of Planning and Economic Development for the City of De Pere, spoke in opposition to the plan. He said that De Pere has the second largest population and the third highest assessed valuation in the county. The new growth the city has experienced has had the highest density of development in the county. In spite of this growth and eligibility for acres for new residential growth, their developable land is limited He felt that the proposed SSA plan does not provide for coordination between adjacent municipalities or consistency of the elements required by Smart Growth. He further stated that De Pere, as well as all other municipalities of the county, have not seen a copy of the final map of the SSAs. Because of this, he requested that this action be tabled in order to provide the elected officials the opportunity to further review the final plan and final maps and comment before approval of the plan.

L. Bechler, an attorney from Madison representing the Town of Lawrence, stated his support of the plan. The plan is fair and treats every community the same. No plan will eliminate controversy, and it is important to look at the county as a whole.

J. Grassman, Administrator for the City of De Pere, stated that the plan falls short, and it contains no meaningful approach to address Smart Growth planning and cooperation. The subcommittee should continue to meet and address the arbitrary standard and areas in dispute. The land to be annexed shortly by the city should be shown on the plan.

R. Vandenack, Town of Lawrence Supervisor, stated his support of the plan.

The public hearing was closed at 6:51 p.m.

2. **Introduction of Jim Schmitt as a new County Board representative and Paul Blindauer as a City of Green Bay appointment to the Brown County Planning Commission Board of Directors.**

Because of conflicting schedules, both Jim Schmitt and Paul Blindauer were excused from tonight's meeting.

3. **Approval of the minutes of the June 5, 2002, regular meeting of the Brown County Planning Commission Board of Directors.**

A motion was made by G. Nichols, seconded by M. Fleck, to approve the minutes of the June 5, 2002, meeting as presented. Motion carried.

4. **Receive and place on file the minutes of the June 18, 2002, meeting of the Brown County Sewage Plan Update Steering Committee.**

A motion was made by P. Harris, seconded by G. Nichols, to receive and place on file the minutes of the June 18, 2002, meeting of the Brown County Sewage Plan Update Steering Committee. Motion carried.

5. **Discussion and action regarding the adoption of the Brown County Sewage Plan.**

A motion was made by R. Simonson, seconded by M. Fleck, to approve the Brown County Sewage Plan as presented, forward it to the Wisconsin Department of Natural Resources for approval, with the exception of those areas of identified conflict and inclusion of the recently annexed area in the City of De Pere's SSA.

R. Simonson indicated on the map the land in conflict, which is shaped like a long finger and lies along the Town of Lawrence and circles the southwest side of De Pere.

G. Little stated that De Pere needs to address the area along the river that is in need of sewer service. The town is working on a plan to get sewer and water to the Little Rapids area because De Pere neglected this area.

R. Simonson noted that the City of De Pere has worked with the GBMSD and the Town of Lawrence and responded that this area is not being neglected. Sewer and water could be provided to this area but has stopped at the city limits because there has been no request for annexation yet. He also noted the policy of stopping SSA boundaries at city/village boundaries is arbitrary and cupreous.

G. Little responded that the city can annex lands at any time and does not need to show an SSA for the land to the south.

R. Simonson asked C. Lamine if he feels the plan addresses all of the issues it should. C. Lamine responded that staff and the subcommittee tried to address all of the issues. Addressing the 20-year growth issue as required by the Administrative Code was the greatest concern of staff. The final draft presented tonight is the product of much debate, discussion, and compromise. R. Simonson asked if the DNR will have concerns with the plan. C. Lamine responded that he did not know, but they will review the plan and report back to staff if they do have any concerns.

E. Kittell stated that the maps were not included in the final draft, and she asked about some of the latest changes and paragraph omissions. C. Lamine responded that the maps would be included in the final draft that would be sent to the DNR for review. Additionally, maps of the various communities were available on the back table for review tonight. J. Dietl responded that the page-sized maps were not completed yet and will be very detailed. Several paragraphs were deleted from the

report because the data was not available at this time, but this background information was not necessary to the plan.

E. Kittell asked if the Amendment Application Manual would be included in the vote. C. Lamine responded that it would be. E. Kittell then pointed out a discrepancy on page 8 regarding minor and major amendments and asked which one requires a public hearing. J. Dietl responded that based on the previous plan, DNR staff asked for public hearings for all changes. The committee wanted the amendment process to be more streamlined by requiring public hearings for just major amendments. J. Dietl then read how the statement should read: "A public hearing to obtain public comment on major amendments will also be held."

S. Schneider asked R. Simonson why the City of De Pere has not annexed this area in the Town of Lawrence. R. Simonson responded that the Town has not asked to be annexed. S. Schneider stated that there needs to be better planning and communication between communities. From a planning perspective, the land should be annexed for long-term growth. He further stated that he supports the draft sewage plan.

P. Ehrfurth asked if there are other areas of conflict. D. Wiese responded that there were. P. Harris asked if the process is open-ended or how can this be resolved. R. Simonson responded that we need to ensure orderly growth based on good planning and not just municipal boundaries.

C. Lamine stated that previous drafts of the plan stated that the contested areas would be identified and then classified as a Brown County SSA. A boundary agreement would then need to be reached. C. Lamine stated that no sewer could be extended until there was annexation or a boundary agreement, and this language was deleted by the committee from the recommended draft.

A motion was made by S. Schneider, seconded by M. Fleck, to call the question. Motion carried.

The motion was re-read: A motion was made to approve the Brown County Sewage Plan as presented, forward it to the Wisconsin Department of Natural Resources for approval, with the exception of those areas of identified conflict and inclusion of the recently annexed area in the City of De Pere's SSA. Motion failed by a roll call vote of 8 to 12. Those voting in favor were J. Brown, P. Ehrfurth, M. Fleck, P. Harris, W. Nabak, R. Simonson, C. Weber, and D. Wiese. Those voting against were W. Clancy, N. Dantinne, R. DeGrand, M. Hermes, E. Kittell, R. Kryger, G. Little, D. Mau, G. Nichols, B. Schlag, S. Schneider, and T. VandeWettering.

A motion was made by G. Little, seconded by N. Dantinne, to adopt the Brown County Sewage Plan as presented with extra SSA acres to be provided to the Town of Lawrence SSA based upon receipt of bonus acres for the stormwater management ordinance recently adopted by the Town. Motion passed 12 to 8.

Those voting in favor were W. Clancy, N. Dantinne, R. DeGrand, M. Hermes, E. Kittell, R. Kryger, G. Little, D. Mau, G. Nichols, B. Schlag, S. Schneider, and T. VandeWettering. Those voting against were J. Brown, P. Ehrfurth, M. Fleck, P. Harris, W. Nabak, R. Simonson, C. Weber, and D. Wiese.

B. Schlag left for another meeting at 7:45 p.m.

6. **Discussion and action regarding the STH 29 Corridor Study final draft.**

C. Runge reviewed the STH 29 Corridor Study final draft. The plan, as presented at the March 6, 2002, BCPC meeting, includes goals and objectives, an assessment of the *Brown County Year 2020 Lane Use and Transportation Plan*, and a comparison of interchanges at CTH VV and CTH U.

A summary of staff's recommendations is:

- a grade-separated interchange should be built slightly west of where CTH VV currently meets STH 29 to complement the interchange planned for CTH FF;
- Howard should transfer Marley Street between the CTH VV interchange and CTH C to Brown County;
- a grade-separated overpass should be built at CTH U to provide a means for people to conveniently travel between the north and south sides of STH 29;
- direct access to STH 29 from Sunlite Drive and Woodland Road should be removed when the CTH FF interchange is built;
- Hobart and Howard should retain control of their portions of the Sunlite Drive and Woodland Road rights-of-way after direct access to STH 29 is eliminated.
- a single-lane roundabout should be built at the intersection of CTH U and CTH VV to maximize traffic flow, safety, and multi-model accessibility;
- direct access to STH 29 from South St. Augustine Drive and STH 156 in Pittsfield should be eliminated, and STH 156 should be continued along Old 29 Drive to the STH 32 interchange;
- the streets that connect to the interchange in Howard and Hobart should be two-lane boulevards that include bicycle lanes, left turn bays at minor intersections, and roundabouts at major intersections;
- Howard, Hobart, and Pittsfield should develop local street networks that maximize connectivity and offer several route options for motorists, bicyclists, and pedestrians;
- the CTH FF interchange should be built after 2015;
- the CTH VV interchange should be built after 2022. The STH 29/CTH U intersection should remain open until the CTH VV interchange project is finished; and
- once the CTH VV interchange is completed, the CTH U overpass project should begin.

C. Runge stated that there has been public outreach through committee/stakeholder meetings, presentations, telephone interviews with businesses and representatives, open houses, etc.

C. Runge passed a handout, entitled "Responses to Pittsfield's Comments About the Final Draft of the STH 29 Corridor Study," to the Commissioners. He stated a letter with 21 bulleted comments from D. Kelm was received by staff yesterday (July 9, 2002). C. Lamine then asked if the Commission wanted to discuss each point made or to move forward.

A motion was made by B. Clancy, seconded by N. Dantinne, to suspend the meeting rules in order to allow public input. Motion carried.

J. Virlee, a resident on Marley Street, stated that over 100 people attended the open meeting and very few people were in favor of the plan. He is afraid that he will lose his front yard if the boulevard is widened. C. Runge responded that there would be minimal impact because the two-lane boulevard will operate within the existing right-of-way. J. Virlee thanked C. Runge for his explanation and stated that he had misunderstood the plans.

J. Helfenberger, speaking on behalf of Hobart, stated that he was on the Hwy 29 study committee and had asked for this study to be done in order to properly plan for the future. This issue had been studied for several years in order to formulate plans that avoided businesses and houses where roads would logically be located, the negative placement of service roads, etc. He also stated that Hobart supports the study's recommendations.

B. Elman, OMNNI, spoke on behalf of Pittsfield representative Dawn Kelm. He stated that the school district favors CTH U. Letters written by business owners in favor of CTH U were not included in the BCPC packet. He stated that a real economic impact study hasn't been done and should be done.

J. Wesolowski, Town of Pittsfield, stated that he worked for the WisDOT for 34 years. CTH U was approved as the interchange location by Brown County and WisDOT many years before. Pittsfield and other affected communities have used this information in their planning process (i.e., the Pittsfield soccer field). CTH U provides a direct link for traveling, and he recommended that the interchange be placed at CTH U. A thorough study should be done if an alternative location is proposed.

D. Freeberg, Mead and Hunt and a representative on the Pittsfield planning committee, stated that there was a lot of time and effort spent on this plan. However, he suggests that the committee look at alternative locations for the interchange, look at frontage roads, re-evaluate the situation, and consider compromises in order to properly address traffic flow and accessibility.

A motion was made by B. Clancy, seconded by M. Fleck, to return the meeting to order. Motion carried.

R. Kryger stated that he has driven in the areas of CTH VV and CTH U, and he prefers the CTH U location. He also feels that we may need to have frontage roads. The CTH VV location will have substantial impact on some businesses, a church, the soccer field, etc.

C. Lamine responded that the study addresses the reasoning of the committee in its choice of CTH VV. It is important to remember that we are not to be looking just at the development today but at long-term development over the next 20 to 30 years.

C. Runge told R. Kryger that J.W. Industries had stated to him that they would not have an economic impact with a CTH VV interchange. Their trucks travel to the east. Arrow Concrete may incur financial hardship, but the Town of Pittsfield's long-range plan shows that the area around Arrow Concrete (including the Arrow Concrete site) will be developed as residential.

C. Lamine and C. Runge stated that the committee does not want another set of frontage roads as is seen in Suamico along the entire highway. They are unattractive, inefficient, costly, and unsafe. C. Runge stated that the *1997-1999 Green Bay Metropolitan Area Crash Study* shows that some of the top 30 (highest cost and severity of injury) crash locations involved frontage roads.

E. Kittell stated that road development should not be determined by urban sprawl. Spacing should not dictate where the interchange is located. There are currently 12 homes on Marley Street and no homes along CTH U. This project needs to be postponed until an economic analysis can be done. C. Runge responded that an impact study has been done for this area and is incorporated into this study. He also stated that an economic impact study for a project that would not be implemented for more than 20 years would not be accurate. We need to plan for the future. P. Ehrfurth stated that it is difficult to project the life cycle of a business.

C. Runge asked J. Hollister, WisDOT, if the WisDOT does a more detailed study when the project date is closer. He responded yes.

J. Nichols stated that he is not against CTH VV, but CTH U tends to make more sense. It is straight and connects with Hwy 54. N. Dantinne stated that CTH VV makes no sense because CTH U connects to everything.

R. Kryger stated that he felt that the impact of CTH VV on Glendale would be huge. C. Runge replied that we need to look into the future instead of fixating on today. There will be more diversity, more uses, and more streets. We will not build the interchanges until growth reaches the point of warranting them. In time there will be a grid system, and we need to guide the growth.

A motion was made by R. Simonson, seconded by P. Ehrfurth, to approve the plan as presented. The motion failed by a roll call vote of 9 to 10. Those voting in favor were J. Brown, P. Ehrfurth, P. Harris, M. Hermes, D. Mau, W. Nabak, R. Simonson, C. Weber and D. Wiese. Those voting against were W. Clancy, N. Dantinne, R. DeGrand, M. Fleck, E. Kittell, R. Kryger, G. Little, G. Nichols, S. Schneider, and T. VandeWettering.

C. Runge asked what the Commission wanted staff to do.

A motion was made by S. Schneider, seconded by B. Clancy, to again suspend the meeting rules in order to allow public input. Motion carried.

J. Hollister, WisDOT, stated that WisDOT asked for the study to plan for the future. There is not a lot of development at the present time that depends on Hwy 29, but various governing agencies need to know what the future of this highway will be. P. Ehrfurth asked J. Hollister if he would proceed to implement this study. J. Hollister responded that he supports the study and would build on it.

D. Doxtator stated that he lives on CTH U, and when he came to the meeting, he was in support of an interchange at CTH U. However, after listening to the staff presentation, he is in favor of a location at CTH VV. He felt that the only thing being talked about was the businesses, and the Commission should be concerned about the people along CTH U and the children at the school.

A motion was made by P. Ehrfurth, seconded by D. Wiese, to return to order. Motion carried.

P. Ehrfurth stated that this is a good study, and the municipalities need to be more proactive.

C. Lamine stated that this plan could be returned to the committee for further study, but this basic plan may again come out of that process.

G. Little stated that he is not prepared to vote in favor of the study because he has not had a chance to read the comments that Pittsfield has submitted. C. Lamine stated that D. Kelm had not been present at the meeting when the STH 29 Corridor Study was on the agenda. She was in attendance at the following meeting when it was not part of the agenda. She was still given the opportunity to comment, and she stated that her comments would be mailed to staff in a letter. C. Lamine stated that a memo had been mailed out with the draft corridor study stating that June 25, 2002, was the deadline for submitting comments. Her letter and comments were received July 9, 2002, the day before the Plan Commission meeting, and staff did not have time to mail out a response.

G. Little responded that the rural communities appear to be siding with Pittsfield.

R. Kryger stated that he has talked to several people and is hearing that the businesses and schools are not happy. This is different from what staff is relating tonight.

C. Lamine stated that the committee will take another look at the study, will try to gather more information, and will bring a report before the Commission at the next meeting.

G. Nichols stated that staff is working for the communities, and they are hearing conflicting statements. More consensus is needed. C. Runge responded that he has talked with each of the municipalities, and all except Pittsfield have been in favor of the interchange at CTH VV.

P. Harris stated that development will evolve from the core outward. We just need to take one step at a time, but we do need to step ahead at this point.

E. Kittell stated that she would like the Commissioners to receive copies of statements from each affected business stating their feelings on the location of the interchange. C. Lamine stated that this could be done but that the BCPC also represents the 1,000+ new people who will be here in 20 years. He again cautioned the Commissioners that their job is to think long-term and look at the big picture.

N. Dantinne stated that he would like the study brought back with more information. P. Ehrfurth stated that it could be brought back, but asked what information the Commission wanted to see. T. VandeWettering asked if the study could look more closely at CTH U. C. Lamine responded that it could.

7. **Brown County Comprehensive Plan.**

a. Roundabout Video

C. Runge showed a portion of a video taken at the two roundabout sites in Howard. He stated that they are designed so that larger trucks, buses, etc. can drive on the patterned apron when making the turn. The roundabout planned for the Woodale and Velp intersection will be larger than the ones currently in Howard.

b. Visual Preference Survey (collect cameras)

Only 7 of the 24 cameras and corresponding survey forms were returned. The Commissioners were urged to return the cameras as soon as possible so that the prints could be shown at the next meeting.

8. **Director's report.**

a. Staffing and vacant positions.

Andrea Beck, GIS Specialist, was introduced to the Commissioners. She worked previously at Robert E. Lee, East Central Wisconsin Regional Planning Commission, and the Bay-Lake Regional Planning Commission.

C. Lamine stated that he has received more applications for the Senior Land Use Planner position. Staff has been doubling up on duties, and he hopes to have someone in that position soon.

C. Lamine stated that each of the Commissioners was given a copy of the Annual Report. The state requires that one be published each year. Additional copies would soon be sent to all Brown County communities.

9. Brown County Planning Commission staff updates on work activities during the month of June 2002.

The staff updates were accepted as presented.

10. Other matters.

None**.**

11. Adjourn.

A motion was made by P. Ehrfurth, seconded by R. DeGrand, to adjourn. The meeting was adjourned at 9:26 p.m.

:cml

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

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October 24, 2002

Chuck Lamine
Brown County Planning Department
100 N. Jefferson Street, Suite 608
Green Bay, WI 53707

Subject: Brown County Sewerage Plan

Dear Mr. Lamine:

I am writing to provide our reaction to the updated Brown County Sewer Service Area Plan, which you submitted earlier this year. I apologize for the delay in providing our review to you. Below are comments that need to be addressed before we can approve of the plan under NR121.

While the proposed document utilizes an innovative approach to meet 20-year planning requirements, the use of water quality and community planning incentives to modify the number of acres allocated to a specific designated management agency (DMA) is inconsistent with NR121. The code requires identification of needed acreage based on population projections (DOA or DOA approved), local density standards, and number of persons per household. Thus, while innovation to encourage better planning is welcome, the specific "carrot" of bonus acres allocated to a community in response to a subjective review of practices is unacceptable in a plan designed to determine 20-year acreage needs for public sewer service.

A second major concern is the lack of designated management agencies (DMAs) identified in the plan. Specifically, the plan needs to identify potential owners of the needed collection, transmission, and treatment of waste in publicly owned sewer systems in Brown County during the next 20 years. It is also DNR's understanding that time horizons applied to communities in the proposed plan are inconsistent – some communities reflect a 20-year time horizon, some reflect a lesser time horizon. DNR does not require that a community's service area expand with time – only that the plan reflects a consistent time period for all communities involved. If governance issues result in conflict over particular parcels, an interim strategy for resolving these issues should be outlined in the plan using as much specificity as possible. Further, the proposal to transfer lands between sewer service areas without an amendment is also inconsistent with the code in that changes to the areawide water quality management plan must be made through the authority identified in NR121 and delegated to the Watershed Management Bureau.

We are also very concerned with the proposal to reduce buffers for the designated environmentally sensitive areas. DNR's role under NR121 is to protect water quality. These buffers have been included to ensure that the water resources are adequately protected. The reduction of these buffers without any alternative performance standards for construction management and stormwater controls will significantly increase the potential for degradation of water resources. Absent such an alternative approach, you should reconsider reducing the buffers and/or evaluate the impact through specific project analysis prior to wholesale buffer modification.

Implementation of Brown County's minor amendment process must also be adjusted to reflect clarification of boundaries, but not removal of environmentally sensitive areas. Therefore, in the future Brown County should not process "minor amendments" that involve environmentally sensitive areas.

In that same vein, Brown County and DNR need to develop a process to ensure that substantive modifications to environmentally sensitive areas from the installation of stormwater management facilities is included in the plan update. This process may be as simple as sending DNR a copy of the proposed modifications to the ESA *once all permits are received* and having that information added to the Brown County SSA Plan file. This process must be clearly outlined in the plan update and agreed upon by both Brown County and DNR.

The proposed plan also removes requirements for providing information on impacts to specific community services, such as public water, school, etc. Due to the presence of substantial drinking water issues in Brown County, DNR requests that amendments continue to provide information concerning potential impacts on public drinking water supplies.

I hope these comments help you bring the existing plan into conformance with NR121. Please call me if you would like further clarification on these issues. Thank you.

Sincerely,

Charles R. Ledin

Charles R. Ledin, Chief
Great Lakes and Watershed Planning Section
Bureau of Watershed Management

C Lisa Helmuth, Terry Lohr WT/2
NER GMU Water Team Leaders

MINUTES
BROWN COUNTY PLANNING COMMISSION
BOARD OF DIRECTORS
Wednesday, November 6, 2002
Room 604, Green Bay City Hall
6:30 p.m.

ROLL CALL:

Paul Blindauer	X	Greg Little	X
Keith Block	Exc	Dave Mau	X
Jennifer Brown	X	William Nabak	X
William Clancy	X	Gerald Nichols	X
Norbert Dantinne, Jr.	X	Bob Schlag	X
Ron DeGrand	X	James Schmitt	X
Paul Ehrfurth	X	Steve Schneider	X
Mike Fleck	X	Roy Simonson	X
Peter Harris	X	Gary Vanden Busch	Exc
Michael Hermes	X	Tim VandeWettering	X
Elaine Kittell	X	Carl Weber	Exc
Ronald Kryger	X	Dave Wiese	Abs

M. Fleck was excused early to attend another meeting. J. Brown and C. Weber arrived after the meeting started.

OTHERS PRESENT: Joel Dietl, Chuck Lamine, Cathy Larsen, April Mielke, Aaron Schuette, Clayton Bildings, Vince Cisler, Steve Corrigan, Joel Fauth, Sharon Fauth, Steve Jauquet, Barb Lautenslager, Mike Liebman, Joe Linssen, Luann Pansier, Dave Rady, and others.

The public hearings were held, beginning at 6:30 p.m.

1. Public Hearings.

   a. A public hearing regarding an environmentally sensitive area amendment to the *Brown County Sewage Plan* for the Village of Bellevue relocating and re-delineating an environmentally sensitive area for proposed business and light industrial development.

      J. Dietl called the public hearing to order at 6:30 p.m. and read the public hearing notice as it appeared in the Green Bay Press-Gazette on October 23 and October 30, 2002.

J. Dietl presented the report and showed where the subject stream is currently and where it is proposed to be relocated. He stated that this area is very flat, and some areas will have to be filled in.

J. Dietl read the rules for the public hearing and stated that he would read off the names of the people wanting to speak in the order in which they had signed in.

M. Liebman stated that he has been working with the landowners in the area. He would like to speak last in case there were questions presented that he could address.

B. Lautenslager stated that she was speaking on behalf of herself, Sharon Faeth, David Van Rite, and Susan Tesar. They are opposed to this amendment request because the relocated stream would border their property. This change in the environmental corridor is premature because all of the issues, including water quality and velocity impacts, have not yet been resolved. [A copy of a letter from Davis & Kuelthau, S.C., on behalf of Barb Lautenslager, Sharon Faeth, David Van Rite, and Susan Tesar, was presented to each Commissioner.]

M. Liebman, Foth & VanDyke, stated that this is a very desirable area for development, and from an environmental standpoint, a stream relocation is very important to efficient development. There would be no negative impact on the neighbors. Details of the potential development need to be looked at, but more environmental studies are not necessary.

G. Nichols stated that the letter from David & Kuelthau indicates concerns with increased flooding and erosion. M. Liebman responded that the flood plan has been studied, and approval for a Chapter 30 permit is pending. The channel would be able to adequately handle the water runoff.

G. Nichols asked if ESAs would be created or changed by changing the location of the stream. M. Liebman responded that although wetlands would be created because of the relocation, six acres of ESA would be lost.

P. Ehrfurth stated that there are 11 conditions listed in the staff report. He asked if there would be full compliance. M. Liebman responded that all conditions would be looked at closely and followed, if required, as part of the amendment process.

B. Clancy stated that there would be more blacktop with the proposed development. This would mean more runoff and a greater velocity. M. Liebman responded that the channel would be able to handle the quick runoff.

G. Nichols asked about the effect of this amendment on Hwy 172 and GV. There is a recreational pond in that area. M. Liebman responded that it is located a considerable distance from this project, and there is no relationship.

E. Kittell asked about the farms that would be affected and if the runoff would be by their house after the stream relocation. M. Liebman responded that the water will go into the stream before their house and will travel in the current stream. Peak flows will not be increased. Volumes will increase but will be allowed into the stream under controlled circumstances in a slow release manner.

D. Rady, property owner, handed out a letter to the Commissioners. He stated that the water would meet the culvert on Lane Road and would create backwash because the culvert cannot handle that amount and velocity of water. Studies have not been done on the area up to and beyond Lane Road.

B. Lautenslager stated that there would be impacts if agricultural work is to be done on the land. Additional permits will be needed if they decide to develop their property.

M. Liebman stated that a flood study has been done along this stream up to the East River. This 20-foot trapezoidal channel will be effective.

The public hearing closed at 7:00 p.m.

b. A public hearing regarding a sewer service area amendment to the *Brown County Sewage Plan* for the Town of Ledgeview to add approximately 550 acres to and remove about 20 acres from the Ledgeview sewer service area for primarily existing and proposed residential development.

J. Dietl called the public hearing to order at 7:00 p.m. and read the public hearing notice as it appeared in the Green Bay Press-Gazette on October 23 and October 30, 2002.

J. Dietl showed the subject area on a map and stated that Phase I is being asked for now and includes the addition of over 540 acres.

J. Dietl reviewed the rules for the public hearing and stated that he would read off the names of the people wanting to speak in the order in which they had signed in.

J. Linssen, representing the Town of Ledgeview, stated that he was in favor of the request and that the Town is currently working on compliance with the six conditions stated in the staff report. The letters as noted in conditions 1 and 2 have been received. Conditions 3, 4, and 5 require a public hearing, which is scheduled for November 19, 2002. The Town's current project

procedures are in compliance with condition 6, and future projects will be too.

J. Linssen stated that the Town has only about 230 acres left that can be developed, and it needs more residential acreage for the natural progression of growth for Ledgeview. Proper planning is essential, and the Town would like sewer service at the same time that water is extended to the area. Phase I includes a large area of existing development with onsite systems that need updating or replacing.

S. Corrigan, Chairman of the Town of Ledgeview, stated that he was in favor of the request. It was apparent from the many Town meetings that were held with the residents and the postcard votes that the majority of the people were also in favor of it.

V. Cisler, Supervisor for the Town of Ledgeview, stated that he was in favor of the request.

C. Bildings, Supervisor for the Town of Ledgeview, stated that he was in favor of the request.

S. Jauquet, Chairman of the Sanitary District Commission for the Town of Ledgeview, stated that he was in favor of the request. He would like to see sewer service before development occurs.

L. Pansier, Clerk for the Town of Ledgeview Sanitary District, stated that she receives a lot of phone calls from residents who want to keep things moving toward sewer service.

The public hearing closed at 7:14 p.m.

2. Approval of the minutes of the October 2, 2002, regular meeting of the Brown County Planning Commission Board of Directors.

   A motion was made by S. Schneider, seconded by P. Blindauer, to approve the minutes as presented. Motion carried.

3. Environmentally sensitive area amendment to the *Brown County Sewage Plan* for the Village of Bellevue to relocate and re-delineate an environmentally sensitive area for a proposed business and light industrial development.

   C. Lamine stated that P. Blindauer, B. Schlag, and P. Harris would be abstaining from voting on this issue.

   J. Dietl presented the report. He stated that the ESA and the county shoreland zoning setback of 75 feet would be contained on the subject property but that other

county zoning and land conservation regulations would now extend beyond the subject area. The Village wants the ESA first and the ADP and zoning second. The Chapter 30 permit has been applied for but has not been reviewed by the DNR. Some of the property owners have written to the DNR stating their objection to the proposed amendment. If the DNR deems that the concerns are valid, a public hearing would need to be held. Additionally, Planning staff has written to the DNR regarding issues of erosion and vegetation. The DNR and Brown County Zoning staff are concerned with possible incremental impacts. County Planning staff has concerns with the amendment request and would like additional studies done. Some of the concerns could, perhaps, be addressed with wider buffers and vegetation along the buffers. The adjacent property owners do not feel that their concerns are being properly addressed.

B. Nabak stated that he would like to make a motion to approve the amendment with staff's conditions but to allow staff the flexibility to compromise and negotiate some of the conditions.

A motion was made by B. Nabak, seconded by J. Schmitt, to approve the amendment, subject to the condition that staff work with the applicant to address as many conditions as possible without the need for the additional studies.

P. Ehrfurth stated that if other agencies have concerns with the request, if the configurations of the plan could change, and if there are so many questions being raised, why not wait until they are resolved before bringing it before the Plan Commission. J. Dietl stated that his guess is so that marketing can begin. Staff is looking for official confirmation from other agencies of their concerns. If they feel that additional studies need to be done (for instance, downstream studies), they will be done. R. Simonson stated that this request is premature and should be brought before the Commission at a later date when the conditions have been met.

A motion was made by B. Nabak, seconded by S. Schneider, to suspend the meeting rules in order to allow public input. Motion carried.

M. Liebman stated that nothing can be done without permits, including a Chapter 30 permit. The WisDNR has looked at part of the amendment request. The project will meet all of the new DNR stormwater management requirements. In addition, there really aren't that many issues; although, details might change in the future, and they would be addressed properly at that time. In his mind, all questions have been adequately answered at this stage of planning.

B. Clancy asked M. Liebman if it was imperative that this amendment be done now. M. Liebman responded that the market is ready for this type of development, and approval is necessary so that efficient development can move forward.

S. Schneider asked why this request wasn't made when the first portion for the Target store was voted on. M. Liebman responded that this is a good plan for the

entire area. The property was not under the same ownership before, and Target was on a fast track. S. Schneider asked if there is a commercial plan for the whole area. M. Liebman responded that the developers want to see plans before showing much interest, so, therefore, an Area Development Plan is being prepared for this entire area.

D. Mau asked if there will be a berm along the stream. M. Liebman responded that there will be a trapezoidal channel with top of bank, but there could be a berm if required.

B. Schlag, Village of Bellevue President, stated that Foth & VanDyke has done a study of the subject area (about 500 to 600 acres) to determine the appropriate locations for the main streams, roads, and overall layout.

R. Simonson asked about the design storm event that the runoff system needs to handle. J. Dietl responded that there is no overall stormwater management plan and that those details are proposed to be handled on a case-by-case basis. M. Liebman responded that the design is such to make the runoff less than the existing conditions.

G. Nichols asked if there is any protection for the neighbors in case the amendment causes damage and hardships. M. Liebman responded that that would be between them and Mother Nature. There will be no more protection or hazards than there are now.

E. Kittell asked if there are any provisions for the farmers because of the greater agricultural setbacks. J. Dietl responded that the farmers would still be able to plow, but there will be some restrictions while the property is used for agriculture, such as manure storage and spreading.

S. Corrigan, Chairman of the Town of Ledgeview, stated that he is not for or against the amendment, but he sees the potential for problems. A plan needs to be in place before development can move forward, and a Chapter 30 permit cannot be granted without all relevant concerns addressed, so some kind of approval here would be appropriate.

A motion was made by P. Ehrfurth, seconded by B. Nabak, to return the meeting rules to order. Motion carried.

President Mau stated that if the motion passes, this item will not come back to the Plan Commission. B. Clancy asked if it would come back after DNR approval. C. Lamine responded that it would not unless changes were made that would warrant it being brought back before the Commission.

A roll vote was taken on the motion to approve the amendment, subject to the condition that staff work with the applicant to address as many conditions as

possible without the need for the additional studies. Those voting in favor of the request were J. Brown, W. Clancy, P. Ehrfurth, G. Little, W. Nabak, G. Nichols, J. Schmitt, S. Schneider, and D. Mau. Those voting against the request were N. Dantinne, R. DeGrand, M. Hermes, E. Kittell, R. Kryger, R. Simonson, and T. VandeWettering. Those abstaining from the vote were P. Blindauer, P. Harris, and B. Schlag. The motion passed with a vote of 9 for and 7 against.

4. A sewer service area amendment to the *Brown County Sewage Plan* for the Town of Ledgeview to add about 550 acres to and remove about 20 acres from the Ledgeview sewer service area for primarily existing and proposed residential development.

   J. Dietl presented the report.

   B. Nabak asked about the water source. J. Dietl responded that the current source is groundwater through the water tower.

   A motion was made by N. Dantinne, seconded by B. Nabak, to suspend the rules in order to allow public input. Motion carried.

   J. Linssen stated that the Town of Ledgeview is a member of the Central Brown County Water Authority. The Authority is nearing a decision on the future source of the Town's water. It will either be from the City of Green Bay or a direct pipeline to Lake Michigan.

   A motion was made by N. Dantinne, seconded by S. Schneider, to return the meeting rules to order. Motion carried.

   A motion was made by S. Schneider, seconded by G. Little, to approve the request. Motion carried.

5. Update regarding the Wisconsin DNR review of the 2002 Brown County Sewage Plan.

   C. Lamine stated that he and J. Dietl met with the WisDNR in Madison. Planning staff has made a pledge to the communities to get the plan completed as soon as possible. Staff has been receiving phone calls from some communities asking that the process be hurried along and indicating their willingness to do whatever they can to move the process forward.

   C. Lamine stated that a staff report was included in the packet, which outlines the unresolved issues. A copy of the proposed changes and draft language was mailed separately to each Commissioner. Additionally, a copy of the changes made to the Amendment Application Manual was passed to each Commissioner.

C. Lamine stated that staff has been working on this plan for over two years, and it is ultimately a DNR plan. Action does not have to be taken tonight, but staff would like confirmation that the Commission is comfortable with the direction staff is taking. Staff would like to forward the language to the DNR and get the maps updated, which will take at least one month. Along with DNR approval, staff will notify each community to request appropriate changes to their maps.

J. Dietl summarized the WisDNR's concerns and Planning staff's answer to those concerns. In Concern #3, the DNR is requiring that a community can show its 20-year growth area. However, sewer service cannot physically extend past the community's boundaries until annexation occurs. G. Nichols stated that this type of planning beyond boundaries places a small community against a larger one if the growth overlaps.

J. Dietl stated that Concern #4 was still an issue. Only one community can have an SSA on the land. C. Lamine stated that in reality a community like the City of Green Bay cannot extend its sewers into a Town without an annexation first. The DNR's SSA plan is not an annexation plan.

N. Dantinne stated that this language ties the hands of all towns bordering a city and villages. The state will ask if the town can service the area. If the town says no and the city says yes, the judge will base his decision on this.

President Mau stated that it appears that the only way the DNR will approve the plan is if the Commission does as the DNR asks.

S. Schneider asked if the communities could at least identify the SSAs for future planning and anticipated growth to see where the potential overlap would be. C. Lamine responded that as proposed by staff, the disputing communities would need to work out boundary issues. The Plan Commission would not have an active role in the disputes. The acres will remain in limbo and will not be mapped until the land dispute is worked out.

A motion was made by S. Schneider, seconded by G. Nichols, to suspend the rules in order to allow public input.

S. Corrigan stated that NR 121 requires 5-year, not 20-year, sewer service areas.

A motion was made by S. Schneider, seconded by P. Harris, to return the meeting rules to order.

R. Simonson stated that he would like to see all maps before they are sent to the DNR. C. Lamine responded that if the deadline is met by the communities, maps could be available by the December Plan Commission meeting. He suggested that if the communities do not reply by the deadline, staff would do the mapping.

R. Simonson stated that staff should continue to work with the DNR to get their input on the process and with the communities to map areas in a timely fashion so that a final plan could be brought before the Commission.

The consensus regarding Concern #6 was to remove the unmapped, non-navigable streams and buffers from the ESA definition as they were not previously part of the ESA definition, and they will be difficult to map. C. Weber also inquired about not retaining the 50-foot floodway buffer, but staff argued for its inclusion, and no consensus by the Board was reached.

C. Weber stated that Concern #7 needed to be addressed, and he questioned how a stream could be moved leaving an ESA. If the stream moves, the ESA would move with it. C. Lamine stated that this concern could be sent back to the DNR, but that would delay the process. C. Weber stated that the DNR could be made aware of the Commission's concerns and asked to reconsider. If the DNR chooses not to reconsider, fine.

A motion was made by R. Simonson, seconded by J. Schmitt, to direct Planning staff to work with the DNR to resolve the issues, to work with the communities to update their maps, and to bring a proposal back to the Plan Commission.

G. Little asked if the proposal would be in draft form or final form. C. Lamine responded that a draft would be sent to the DNR for comments. Staff would mail maps to the communities asking that they be returned by a specified date. Staff would then use that information to create final maps. Hopefully, this would take no more than two weeks. If the communities do not respond by the specified date, staff would assign acres using land use data on hand. Communities wishing to update their land use data would impact staff's ability to update the maps in a timely fashion.

A motion was made by N. Dantinne, seconded by B. Schlag, to suspend the meeting rules in order to allow public input. Motion carried.

J. Linssen stated that Ledgeview should be allowed to use the updated land use information it prepared for its amendment this evening. After discussion, staff agreed.

A motion was made by N. Dantinne, seconded by B. Nabak, to return the meeting rules to order. Motion carried.

The motion was amended to read: A motion was made by R. Simonson, seconded by J. Schmitt, to direct Planning staff to work with the DNR to resolve the issues, to work with the communities to update their maps, and to bring a proposal back to the Plan Commission. If a community does not return their revised map by the specified date, staff would assign acres using land use data on hand. Motion carried, with N. Dantinne and E. Kittell voting against.

6. 2004–2005 Statewide Multi-Modal Improvement Program (SMIP) project approvals.

C. Lamine stated that two out of seven projects submitted have been approved for state funding: South Broadway Avenue Bicycle Lanes (receiving approximately $314,000) and Baird Creek Parkway – Pedestrian and Bicycle Trail (receiving approximately $340,000).

7. Brown County Comprehensive Plan

a. Visioning session survey results

C. Lamine stated that many of those completing the visioning session survey showed strong feelings for the environment, including water, greenspace, sprawl control, and blight. The survey results were very consistent with Smart Growth planning and will be the framework for developing the comprehensive plan goals and objectives.

b. Visual preference survey results

This item was put on hold until the December Plan Commission meeting.

c. Wisconsin Comprehensive Planning Grant Application for Towns of Wrightstown, Holland, Morrison, Rockland, and Glenmore

A. Schuette stated that the grant application for the Towns of Wrightstown, Holland, Morrison, Rockland, and Glenmore was completed and mailed.

d. Community comprehensive plan strategy

C. Lamine stated that more communities are asking staff for assistance with their comprehensive plans. The ability of the Planning Department to complete plans for every community in Brown County by 2010 is limited by the amount of staff time available within the work program. The strongest applications are those with multi-jurisdiction. The Village of Howard's comprehensive plan is completed. The Town of Eaton's plan should be completed in one to two months. Comprehensive plans for the Towns of Suamico, Ledgeview, Allouez, and the City of De Pere will follow the Brown County comprehensive plan timeline. The Towns of Rockland, Glenmore, Wrightstown, Holland, and Morrison are in the grant application stage. The remaining municipalities will be looking at a timeline beginning in 2004, 2005, or 2006, with Pittsfield beginning in 2007 at the end of the cycle.

8. Request for variance to the subdivision ordinance for cul-de-sac length in Apple Ridge Subdivision, Village of Bellevue, submitted by Dave Chrouser, agent.

   A motion was made by N. Dantinne, seconded by P. Harris, to approve the request. Motion carried, with D. Mau abstaining.

9. Request for variance to subdivision ordinance for lot width on Farr property, Old Shawano Avenue, Village of Howard, submitted by Dave Chrouser, agent.

   A motion was made by R. Simonson, seconded by J. Schmitt, to approve the request. Motion carried, with D. Mau abstaining.

10. Director's Report

    a. Brown County Subdivision Ordinance adopted.

       C. Lamine stated that the Brown County Subdivision Ordinance was adopted by the County Board on October 16, 2002.

    b. Eastern Arterial Corridor Study for the Village of Bellevue.

       C. Lamine stated that the Eastern Arterial Corridor Study will focus on such topics as land use issues, road design, traffic calming, and residential design. It is anticipated that the study will be completed by February or March 2003.

    C. Lamine brought up the non-agenda item that Will VanAbel passed away. He served on the Brown County Sewage Plan Update Steering Committee, as well as - many committees for the Town of Holland. A letter of appreciation for his many years of dedication and service will be mailed to Mrs. Van Abel.

11. Brown County Planning Commission staff updates on work activities during the month of October 2002.

    No comments.

12. Other matters.

    None.

13. Adjourn

    A motion was made by N. Dantinne, seconded by B. Schlag, to adjourn. The meeting adjourned at 9:35 p.m.

:cml

Kaempfer & Associates, Inc.

Consulting Engineers

650 East Jackson St. P.O. Box 150
Oconto Falls, Wisconsin 54154
(920) 846-3932 Fax (920) 846-8319

November 21, 2002 E148-02.01

Mr. Joel Dietl, Senior Planner
Brown County Planning Commission
100 North Jefferson Street, Room 608
Green Bay, WI 54301-5026

Re: Suamico Sewer Service Area

Dear Mr. Dietl:

The Suamico Sanitary District and Town of Suamico request that the area shown on Figure 1 be added to the Suamico Sewer Service Area. The area to be added will service existing and proposed commercial properties along U.S. Highway '41-141'. The proposed addition is not intended to accommodate any residential development.

The Sanitary District and Town feel the area needs sanitary sewer and water to optimize the type of commercial development that will occur in the area. The Sanitary District and Town also feel that additional commercial area, with sanitary sewer and water service, is needed to accommodate the anticipated residential growth. The anticipated residential growth will require restaurants, day care centers, service stations, convenience stores, and other types of commercial services. The Sanitary District and Town would like to be able to install the sanitary sewer and water system improvements in the near future when the east frontage road is upgraded. The Sanitary District and Town feel it would be poor planning to have to install the water main and upgrade the road without being able to install the sanitary sewer.

Please contact me if you have any questions or if you need additional information.

Sincerely,

KAEMPFER & ASSOCIATES, INC.

Christopher Kaempfer, P.E.

CK:jlb

Enc: As Noted

cc: Paul Garvey, Suamico Sanitary District President
Mike Wheeler, Suamico Sanitary District Secretary
Ron Wach, Suamico Sanitary District Treasurer
Sue Last, Suamico Sanitary District Deputy Clerk
Richard Johnston, Town of Suamico Administrator

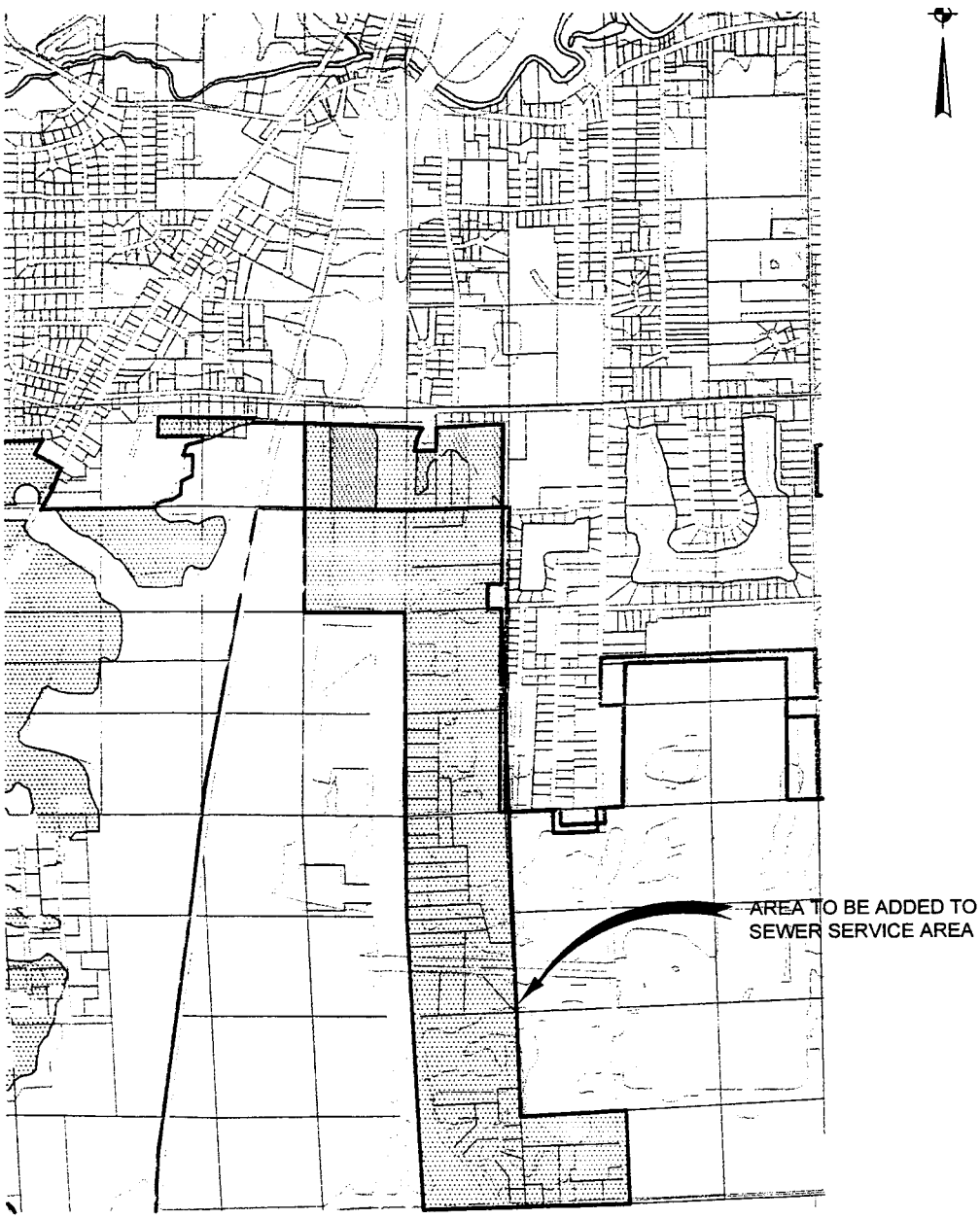

Fig 1. Proposed Sewer Service Area Addition

Village of
Ashwaubenon

2155 Holmgren Way
Ashwaubenon, Wisconsin 54304-4605

STEVE KUBACKI

Phone (920) 492-2327 Fax (920) 492-2328
www.ashwaubenon.com

Director of Administrative Services

November 22, 2002

Mr. Chuck Lamine
Brown County Planning
City Hall – Room 608
100 North Jefferson Street
Green Bay, WI 54301

Dear Mr. Lamine:

The Village of Ashwaubenon would like to inform Brown County Planning that we agree with the proposed revisions to the 2002 Brown County sewage plan maps. However, that relates to the allocation of vacant developable land added to the program.

We would propose that the 387 acres of vacant developable land be addressed as follows:

1. Approximately 200 acres would be added to the allowable acreage for the Town of Lawrence in a northern section of Lawrence between Highway 41 and the Fox River.

2. We would allocate approximately 140± acres of developable land immediately south of Grant Street, east of Packerland Drive that is in the Town of Lawrence. This acreage would be designated as "mutual" acres between the Village of Ashwaubenon and the Town of Lawrence. This "mutual" designation would allow either the Village or the Town to develop or utilize the acres.

3. We would propose that approximately 40 acres be allocated to the Town of Lawrence property on Cypress Road, which is, for all practical purposes, an island of the Town of Lawrence, surrounded by the Village of Ashwaubenon.

With that, that would address our approximate 387 acres of vacant, developable land added to the sewer service area changes as communicated via your communication dated November 11, 2002 from Joel Dietl, the Senior Planner with Brown County Planning. We will be happy to meet with you at your convenience to more specifically delineate these areas that have been defined within this communication.

If you have any questions on this matter, please feel free to contact me or Jerry Lopas at your convenience.

Thank you.

Sincerely yours,

Steve Kubacki

Steve Kubacki
Director of Administrative Services

cc: Ted Pamperin, Village President
Tom Perock, Town of Lawrence Chairman
Village of Ashwaubenon Village Board

McMAHON
ASSOCIATES, INC.

ENGINEERS ■ ARCHITECTS
PROJ. MGRS. ■ SURVEYORS

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Tel: (920) 751-4200 Fax: (920) 751-4284
e-mail: mcm@mcmgrp.com

November 22, 2002

Mr. Joe Dietl, Senior Planner
Brown County Regional Planning Commission
100 North Jefferson
Green Bay, WI 54301

Re: Town of Lawrence
Sewage Plan Update - Revised Mapping
McM. No. L017-98673

Dear Joel:

On behalf of the Town of Lawrence we are responding to the request to revise the acreage allocation for the 2002 sewage plan update.

The Town of Lawrence is working with the Village of Ashwaubenon to allocate acres jointly in the Town of Lawrence. The attached table describes the acreage breakdown.

The area near Packerland Drive and CTH "EE" is proposed to be "mutual" acres that will be available to both the Town and Village. The Town agrees that if they develop the property in this 143-acre area, they will plan jointly with the Village and mutually agree on the development quality. The Town and Village further agree to conduct joint planning and are entering into border agreement negotiations.

Please confirm the 100-acre +/- discrepancy with the developed mapping. If there are more acres available we will discuss the placement of the proposed addition to the mapping.

Please call if you have any questions.

Very truly yours,
McMahon Associates, Inc.

Matthew J. Greely, P.E.
Associate / Senior Project Engineer

MJG:sbk
cc: Tom Perock, Town Chairman - Town of Lawrence
Steve Kubacki, Village Administrator

PITTSFIELD SANITARY DISTRICT NO. 1

JOHN TAUSCHER
President

GERALD WESOLOWSKI
Secretary
4710 Maple Drive
Green Bay WI 54313

RONALD WHITE
Treasurer

December 2, 2002

Mr. Joel Dietl
Brown County Planning Commission
100 No Jefferson St.
Green Bay Wi 54301

Mr. Dave Mau
Mau & Associates
400 Security Blvd.
Green Bay WI 54313

RE: Brown County Sewage Plan

Please read this letter to the Planning Directors at the December 4, 2002 meeting before they make their final decision regarding this latest plan revision.

During the development of the Brown County Sewage Plan, I was part of the Technical Advisory Committee. We saw many opposing views and plenty of discussion regarding those views, which in my opinion is why this committee was formed and implemented. It was very disheartening to see the plan changed by the DNR, which set aside the wishes of the majority of the Committee.

When the Brown County Planning Staff developed the new sewer service area numbers, Pittsfield Sanitary District No. 1 was given no new acres. I was told there is no expected growth in that area. The latest 20-year Sewer Service Area shows that there is development within the southern areas of the Town of Pittsfield. Our neighbors to the south, the Village of Howard, have been allowed to show about 950 acres of their sewer service area within the Town of Pittsfield. This area completely encompasses the Pittsfield Sanitary District No. 1 boundaries in the Mill Center Area. With the exception of about 3 lots, any additional developments in that area become areas of conflict. The boundaries have been so drawn that even lots along our existing sewer lines will be areas of conflict.

If there is no development expected in Pittsfield for 20 years, then how can the Village of Howard show sewer service area there? However, if there is indeed going to be development, then why isn't Pittsfield Sanitary District No. 1 allowed to show additional sewer service areas within the Town of Pittsfield? There seems to be inequity here.

We request that Pittsfield Sanitary District No. 1 be allowed to show added acreage to match the currently approved effluent capacity of 0.5 cfs as provided by the Green Bay Metropolitan Sewerage District.

G. F. Wesolowski

Gerald F. Wesolowski
Secretary, Pittsfield Sanitary District No. 1

MINUTES
BROWN COUNTY PLANNING COMMISSION
BOARD OF DIRECTORS
Wednesday, December 4, 2002
Room 604, Green Bay City Hall
6:30 p.m.

President Mau called the meeting to order at 6:30 p.m.

ROLL CALL:

Paul Blindauer	X	Greg Little	X
Keith Block	X	Dave Mau	X
Jennifer Brown	X	William Nabak	Exc
William Clancy	X	Gerald Nichols	X
Norbert Dantinne, Jr.	X	Bob Schlag	X
Ron DeGrand	Exc	James Schmitt	Exc
Paul Ehrfurth	X	Steve Schneider	X
Mike Fleck	X	Roy Simonson	X
Peter Harris	X	Gary Vanden Busch	X
Michael Hermes	X	Tim VandeWettering	X
Elaine Kittell	X	Carl Weber	X
Ronald Kryger	X	Dave Wiese	X

OTHERS PRESENT: Joel Dietl, Chuck Lamine, Cathy Larsen, Aaron Schuette, Kathy Ambrosius, Dennis Cashman, Vince Cisler, Steve Corrigan, Chris Kaempfer, Joe Linssen, Tom Lund, Mark Schauer, and others.

1. Approval of the minutes of the November 6, 2002, regular meeting of the Brown County Planning Commission Board of Directors.

   A motion was made by R. Kryger, seconded by G. Nichols, to approve the minutes as presented. Motion carried.

2. Annual election of officers to the Brown County Planning Commission Board of Directors.

   President Mau stated that according to the BCPC bylaws, an election for president and vice-president is to be held annually.

   a. President

      A motion was made by G. Vanden Busch, seconded by N. Dantinne, to nominate D. Mau for president. Motion carried.

A motion was made by N. Dantinne, seconded by G. Vanden Busch, to close the nominations. Motion carried.

Dave Mau was elected President of the Brown County Planning Commission Board of Directors.

b. Vice-President

A motion was made by M. Fleck, seconded by B. Clancy, to nominate N. Dantinne for Vice-President. Motion carried.

A motion was made by S. Schneider, seconded by G. Vanden Busch, to close the nominations. Motion carried.

Norbert Dantinne was elected Vice-President of the Brown County Planning Commission Board of Directors.

3. Brown County Planning Commission revisions to the *2002 Brown County Sewage Plan* in response to the Wisconsin DNR review.

C. Lamine gave each of the Commissioners a copy of a letter received from Gerald Wesolowski, Secretary of the Pittsfield Sanitary District No. 1. This letter was delivered to President Mau on Monday, December 2, 2002. As instructed in the first paragraph of the letter, D. Mau read it to the directors before discussion began.

J. Dietl presented the report and pointed out that additions to the plan were gray shaded and deletions had strike-through lines**.** Additional changes had been made to the draft submitted to the Board of Directors at their last meeting, including removal of the channels of concentrated flow from the ESA definition and the compromise agreement between BCPC and DNR staff regarding ESA changes, stormwater management activities, and other state permit and approval processes, such as the Chapter 30 permit.

J. Dietl stated that the Village of Ashwaubenon and the Towns of Lawrence, Pittsfield, and Suamico provided additional correspondence to BCPC staff after the plan had been printed, and it was included in the BCPC packets. He stated that the letters from Ashwaubenon and Lawrence regarded a preliminary agreement to swap Ashwaubenon's excess SSA area to Lawrence. BCPC staff had no objection as long as it was clearly stated whose SSA the excess acres were to be identified for and used by.

J. Dietl noted that BCPC staff did not support granting extra acres to Pittsfield, as was requested in their letter, and that other communities were held to within 20 acres of their SSA formulas.

J. Dietl stated that he talked to Christopher Kaempfer from Kaempfer & Associates, Inc. (consulting engineers for the Suamico Sanitary District). Staff does not recommend approval of the extra acres for the Town of Suamico, which his letter requests, because all other communities were held to their SSA formula amounts.

J. Dietl stated that Planning staff is aware of SSA boundary conflicts between the Village of Howard and the Town of Suamico, between the Village of Howard and the Town of Pittsfield, and between the Town of Lawrence and the City of De Pere. The De Pere/Lawrence conflict extends from the Fox River west to I-41 and from the city limits southward. J. Dietl also described the locations of the other areas of conflict. The plan as written recommends that no community receive the SSA until the conflict has been resolved. J. Dietl stated that staff has received numerous calls asking that the plan be adopted very soon.

J. Dietl stated that the map within the packet shows the new sewer service area (SSA) boundaries. President Mau stated that it would be nice to receive a map that shows all acres, even those in conflict. J. Dietl responded that that would be done.

M. Hermes stated that Pittsfield's SSA formula does not provide for SSA growth to the area next to Howard because there is no projected growth. He then questioned how Howard could extend their SSA to this area and show future growth. J. Dietl responded that projected growth figures are derived from state population projections, which show the Village growing significantly. In order for the Village to show its full 20-year SSA, Howard extended its SSA into Pittsfield and Suamico. M. Hermes questioned why Planning staff felt that Howard could serve the area in Pittsfield next to Howard better than Pittsfield could. J. Dietl responded that it is assumed that a community can and will serve the area that its population projections show is needed.

G. Little stated that a municipality has to prove its ability to serve the area. If it can't, it will be annexed. C. Lamine stated that no sewer line can be extended until annexation occurs.

J. Dietl reminded the Board that it had originally approved the Pittsfield SSA to serve failed systems, not because of future growth.

E. Kittell stated that SSAs and annexations go together. C. Lamine responded that they are two separate issues and emphasized that the sewage plan is not an annexation plan.

C. Lamine stated that staff received directives from the WisDNR, and the changes to the plan were made accordingly.

G. Little stated that there should be bylaws between adjoining communities. They should address which community could provide service. That community could then show the area as its own, but just to change the boundaries without a study

and confirmation would not be right. There needs to be dialogue between the municipality wanting to grow and the municipality that would lose acreage. C. Lamine stated that the City of Green Bay and the Town of Scott are working together and have had continuous dialogue as a result of the sewer plan process. P. Ehrfurth stated that having areas of contention should force dialogue.

N. Dantinne stated that if no decisions were made, the conflict would then come before the Plan Commission and DNR. The question would be asked which community could service the area more economically. The acres would undoubtedly go to the city, so this plan is an annexation paper.

S. Schneider stated that a rural sanitary district could happen if the tax base is balanced.

M. Hermes stated that this sewage plan goes too far. It refers to past population, and it sets the stage for where annexation would occur. It is best to identify Green Bay Metro as the provider of SSAs rather than individual communities because it identifies where sewer service would be.

G. Nichols stated that he feels the DNR is "pitting" the communities against each other.

J. Dietl stated that he talked to Tom Meier (Allouez Public Works Director) and Cameron McCain (Allouez President). The Town of Lawrence has requested Allouez's excess SSA acres, and Allouez has sent the request to a committee for further study. J. Dietl stated that staff would be opposed to this swap, and C. Lamine added that the DNR would also be opposed to this swap since there is no planning relationship between the two communities in terms of boundary issues.

G. Nichols stated that the DNR directives are contrary to Smart Growth. This plan does not encourage communities to work together. C. Lamine responded that the plan encourages the municipalities to work together on boundary agreements. The focus needs to move from a land grab effort to a planning effort. G. Nichols stated that the municipalities need to work for the best effort of Brown County.

A motion was made by N. Dantinne, seconded by P. Ehrfurth, to suspend the meeting rules in order to allow public input. Motion carried.

Tom Lund, Brown County Board Supervisor of District 25 and Chairman of the Town of Suamico, stated that Howard and Suamico do have a border agreement that has been violated. He questioned how a comprehensive plan could be written if the placement of its community boundaries is unknown. This is not good planning, and annexation should not be forced. The Town of Suamico already has a sewage facility plan in place. He stated that he has problems with the sewage plan as written. The municipalities should be allowed to plan for themselves and

not outside of their boundaries. The municipality should plan *within* their boundary before going outside of their boundary.

C. Kaempfer stated that Suamico is asking for more commercial acreage. Installing sewer and water together is good planning, but the formula does not make sense. The existing commercial areas along the US 41 frontage roads should be included in the Suamico SSA. Suamico has planned for the areas that Howard wants to service, and the Town's new sewer system is designed to service that area. Additionally, Suamico is looking into incorporation. Howard should not be serving areas that could one day be within the Village of Suamico. C. Kaempfer questioned if the BCPC has authority to designate SSAs without town approval. He recommends that Howard's request be denied because of bad planning. He stated that some SSA plans in the state do not identify SSAs by community but rather by treatment plant. He also requested clarification because in the original plan Suamico banked 100 acres to get 100 acres in three years. With the proposed plan, Suamico loses 100 acres of SSA. J. Dietl responded that the formula has changed, and the bonus acres, including banked acres, are lost. C. Kaempfer requested a two-week period to revise Suamico's SSA request. Areas of conflict could lead to unsewered development, and that is bad planning.

J. Linssen, representing the Town of Ledgeview, stated that he is in favor of the plan and that there were five other people in attendance representing the Town of Ledgeview who were also in favor of the plan as presented. He felt that the areas of conflict could be worked out over time.

V. Cisler, Town of Ledgeview Supervisor, asked that the Commission pass the plan.

S. Corrigan, Town of Ledgeview Chairman, stated that the Commission's true mission is to approve the plan as presented and move it forward. If a better plan is needed, it can be drafted in the future, but this plan should not be held up.

D. Cashman, Town of Rockland Chairman, stated that he is opposed to any De Pere acreage in the Town of Rockland being shown on the map.

A motion was made by K. Block, seconded by S. Schneider, to return the meeting to order. Motion carried.

J. Dietl stated that the Town of Suamico does have a border agreement. However, SSAs are not specified in that agreement. SSAs are planning tools. Planning staff wrote a comprehensive plan for the Town of Suamico at the Town's request, and the population numbers used in that plan were high, again at the Town's request. Staff noted then and many times since that those numbers were higher than DOA population projections.

A motion was made by S. Schneider, seconded by D. Wiese, to approve the Brown County Sewage Plan as presented. Motion carried.

A roll call vote was taken. Those voting in favor of approving the plan as presented were P. Blindauer, K. Block, J. Brown, P. Ehrfurth, M. Fleck, P. Harris, R. Kryger, G. Little, G. Nichols, B. Schlag, S. Schneider, R. Simonson, G. Vanden Busch, C. Weber, D. Wiese, and D. Mau. Those voting against approving the plan as presented were B. Clancy, N. Dantinne, M. Hermes, E. Kittell, and T. VandeWettering. The motion passed on a 16 to 5 vote.

4. Brown County Comprehensive Plan

   a. Brown County Comprehensive Plan process and schedule

      C. Lamine stated that he is trying to keep the comprehensive plan process on schedule. He would like to arrange guest speakers to talk on planning issues. Additionally, he would like to form listening groups for each chapter of the plan.

   b. Preliminary draft goals and objectives for the Brown County Comprehensive Plan

      C. Lamine stated that the comprehensive plan is not just a plan. This plan, once adopted, becomes an ordinance for the County. It will have "teeth." The goals and objectives will be the framework of the plan, and dialogue, participation, and debate are essential.

      P. Harris stated that there are too many "bones" to the plan. We will need to stay focused but will not be able to cover everything. C. Lamine responded that the State of Wisconsin has given the Commission this challenge. The majority of the objectives are a result of Vision Fest held in September, but there might be room for condensing.

      C. Lamine read each of the plan's goals and addressed a couple of the objectives under each goal. A. Schuette stated that comments from Vision Fest provided direction. Even though the Vision Fest participants did not address each of the 14 goals, the Commission has to address all of them in the plan.

      R. Simonson stated that Draft Land Use Goal #1, Objective 3, should be changed to read "Encourage higher density development." C. Lamine suggested that "to preserve land area" should be added to complete the statement. P. Ehrfurth stated that the Commissioners need to be careful with the language used because they do not view the issues in the same way.

      P. Harris stated that it looks like the Plan Commission is going to be in public relations by using words like "promote" and "establish." C. Lamine responded that it is written this way because Brown County does not have

county-wide zoning. This plan is a toolbox for the municipalities to use. He further stated that the Vision Fest attendees commented that they wanted consistency for communities in the plan.

S. Schneider questioned the word "utilize" in Draft Land Use Goal #2, Objective 4. He asked if this is what Brown County staff wants or what the people of Brown County want. C. Lamine responded that there is a fine line between theory and reality. The County comprehensive plan will be like a large umbrella over all of the municipalities. Each municipality will then write a more specific plan. The language used in the County's plan will be a product of the Commission.

N. Dantinne suggested that the goals and objectives be held up until the January meeting in order to allow more time for the Commissioners to review them and make comments. B. Clancy suggested that a special meeting be held in two weeks to address them. P. Ehrfurth suggested that the Commissioners have an additional week to review the material and forward comments to staff. It was decided that discussion would continue at the present time.

Draft Transportation Goal, Objective 8, was discussed. C. Lamine stated that a standard street width should not be used. The street width should be designed for the land use that the street is serving.

Draft Agricultural, Cultural, and Natural Resources Goal, Objective 3, was discussed. C. Lamine stated that environmental issues ranked very high in the visioning process.

Draft Utilities and Community Facilities Goal was discussed. C. Lamine stated that this is a very big chapter. Representatives from the different County departments and facilities would be included in the discussions. Objective #1, "Develop and maintain a long-term viable supply and distribution system of high-quality public drinking water," was the #1 issue of those surveyed. Objective #3 encourages outward growth and is consistent with the sewer plan. Objective #19 addresses the five-year growth increments identified in the comprehensive plan based on population projections.

C. Lamine stated that the Draft Housing Goal is a direct requirement of the Smart Growth Law.

Draft Intergovernmental Cooperation Goal, Objective #7, is a big item. A lot of people feel that there are too many layers of government. C. Weber suggested that a speaker be brought in from a county that has "reduced the number of governmental jurisdictions."

C. Lamine stated that he would like to have discussion groups organized prior to the February 2003 meeting.

c. Visual preference survey results

The visual preference survey was tabled until another meeting.

5. Director's Report

a. Resignation of Andrea Beck as Transportation/GIS Planner

C. Lamine stated that Andrea Beck is resigning as Transportation/GIS Planner effective January 2003. She will be accepting a position with a private firm in Madison. A. Beck has been a great addition to staff in the short time she was here.

C. Lamine commented on the adopted County budget. Those hired within the last year received a "hire letter," which identified the annual increases and promotional steps the employee would be entitled to. As a result of the current budget, there will be no promotional steps. C. Lamine stated that he is proud of his staff. They are talented and gifted people, and he is afraid that they will move on to other employment because of the budget cuts. President Mau asked if the Transportation/GIS Planner position would be filled or if a freeze was in effect. C. Lamine responded that the position is 90% federally funded, so only 10% will impact the levy.

C. Lamine stated that Brown County and the City of De Pere have entered into a contract to complete an Area Development Plan for the City's southwest side and transportation corridors.

6. Schedule for the January 2003 meeting of the Brown County Planning Commission Board of Directors due to the New Year's holiday.

It was not determined if the January 2003 meeting would be rescheduled for January 8, 2003, or cancelled completely. A meeting agenda or cancellation notice would be mailed by the end of December.

7. Brown County Planning Commission staff updates on work activities during the month of November 2002.

No comments.

8. Other matters.

E. Kittell asked if copies of the agenda and minutes were mailed to the elected officials of each municipality. C. Lamine responded that they were mailed to municipalities that requested a copy.

9. Adjourn

A motion was made by N. Dantinne, seconded by G. Vanden Busch, to adjourn. The meeting adjourned at 9:07 p.m.

:cml

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

WISCONSIN
DEPT. OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

February 4, 2003

Mr. Chuck Lamine, Executive Director
Brown County Planning Department
100 N. Jefferson St., Rm. 608
Green Bay, WI 53707

Subject: Brown County SSA Plan Update Review

Dear Mr. Lamine:

We have received and reviewed your December 20th submittal of the Brown County SSA Plan Update. This plan was originally submitted to the Department as draft in summer/fall 2002, then resubmitted in response to DNR comments provided on October 24th (see attached), subsequent revisions, and Brown County Plan Commission resolution to forward the plan to DNR which took place December 4th, 2002.

While the Brown County Planning Department largely addressed DNR comments provided in October, the county did not produce a map of designated management areas (DMAs) as requested. Also, Map 5 and its implications surprised us. This map identifies areas of overlap between the Village of Howard and the Town of Suamico as well as the Town of Lawrence and the City of DePere. While DNR anticipated conflicting requests by communities, we did not anticipate that the final plan would be inconsistent with existing facilities plans, comprehensive plans, and with existing intergovernmental agreements. Further, it is our understanding that sufficient review by affected communities was not provided during the completion of this version of the map and plan.

If there are areas where continued discussions or negotiations are needed, DMA designations should reflect this need for future resolution – for example, the overlap between areas requested by the Village of Howard and the Towns of Suamico and Pittsfield. Also, we question the proposed plan's inconsistency with the existing Suamico facility planning effort, your letter of concurrence for the Suamico Sanitary District No. 1 report (12/24/02), and the history of intergovernmental discussions for that area. We intend to approve the Suamico facility plan based on technical information and the Brown County letter of conformance unless we hear a technical reason for not doing so by Friday, February 14, 2003.

We believe that the utility of this sewer service area plan is largely diminished due to its inconsistency with existing documents that have a bearing on how, when and by whom development occurs in the Brown County area, and due to the lack of support by some of the communities involved. We would like these issues resolved prior to a re-submittal of the plan to DNR for administrative decision.

Please call me at your earliest convenience with any questions 608-266-1956.

Sincerely,

Charles R. Ledin, Section Chief
Great Lakes and Watershed Planning

MORRISON SANITARY DISTRICT

3287 MILL RD.
GREENLEAF, WI 54126
PH.864-7263

February 25, 2003

Joel Dietl
Brown County Planning
100 North Jefferson St.
Room 608
Green Bay, WI 54301-5026

Re: Request to add property to SSA

Dear Mr. Dietl,

The Morrison Sanitary District received a request to connect the Lavern Kiekhaefer residence to the sanitary sewer. The property is located on the gravity flow portion of the main pipe line connecting the hamlets of Wayside and Morrison and is not currently within the current or proposed SSA.

Discussion on the phone with you indicted consideration for inclusion in the SSA would be given to properties with documented failed systems.

I have enclosed the information you indicated was required, the permit for construction of a mound system, a copy of the area to be added to the SSA. The current system is discharging to the surface and the property owner would prefer connecting to the public sewer instead of constructing a mound system. The sanitary district commissioners approved the request at their meeting of 2-18-2003 pending approval from BCP to add to SSA..

The Commission also received a request from Wm. Hildebrandt to connect his residence to the public sewer. This property is also located on the gravity line between Wayside and Morrison and the on site system is a similar situation with discharge to the surface. The commissioners approved this request pending receipt of documentation, diagrams and approval from BCP to add to SSA. Information on this property will be send to you upon receipt from owner.

Please advise by phone or letter if you require additional information to approve this request.

Donald Hoeft
Chairman Morrison Sanitary District

Cc: James Kiekhaefer

Proposed by the Town of Lawrence
February 28, 2003

Revised Language

If, following good faith negotiations toward such an intergovernmental agreement, one (or both) of the affected communities notifies the Brown County Planning Commission that the negotiations are an impasse, the Brown County Planning Commission shall review the status of any existing sewer plant facilities plans or interceptor sewer capacity allocations relating to the affected area, as well as whether a designated management area has been assigned previously to the affected area.

- If: (1) the affected area is located within a city, village, sanitary district or a utility district; (2) the community requesting an expansion of the Sewer Service Area is the city, village, sanitary district or utility district; and (3) the application complies with all applicable state and county regulations (including the goals and regulations and policies of the Sewage Plan), the Brown County Planning Commission shall recommend allocating the Sewer Service Area to the requesting city, village, sanitary district or utility district.

- If the affected area is located within a previously approved Sewer Service Area, the Sewer Service Area shall remain allocated to the community to which the Sewer Service Area acreage was allocated, unless all or any portion of the affected area is annexed to a different city or village, or is added to a different sanitary district or utility district. Upon such annexation or addition, the community is required to request an amendment to its Sewer Service Area as set forth previously.

- If: (1) the affected area is located within a city, village, sanitary district or utility district; (2) the community requesting an expansion of the Sewer Service Area is a different city, village, sanitary district or utility district; and (3) the community in which the affected area is located objects to the Sewer Service Area amendment request, the Brown County Planning Commission shall not review the Sewer Service Area request unless the requesting community annexes the affected area or the objecting community agrees to remove its objection.

- In all other circumstances, the affected communities shall enter into a formal mediation process to seek settlement of any outstanding issues between the communities. Following completion of a documented, formal, good faith mediation process, if one (or both) of the affected communities notifies the Brown County Planning Commission that the formal negotiation process has failed and still desires review of its Sewer Service Area amendment, the Brown County Planning Commission shall review the amendment application in accordance with all applicable standards. The Brown County Planning Commission may recommend denial of the Sewer Service Area amendment request until the affected communities reach agreement.

CITY OF DE PERE

335 South Broadway
De Pere, WI 54115
Fax No.: 920/339-4049
e-mail: depere@netnet.net

Brown County Plan Commission
100 North Jefferson Street
Room 608
Green Bay, WI 54301-5026

March 5, 2003

RE: 2002 Brown County Sewer Service Area Plan – Written Testimony For March 5, 2003 Public Hearing

Dear Commission Members:

The City of De Pere is requesting approval of the amended Sewer Service Area (SSA) Plan as proposed and presented by the Brown County Planning Department dated February 19, 2003 (attached). The City believes the amended plan as drafted provides communities the opportunity to resolve issues of dispute regarding sewer service area designation and also provides the County Plan Commission with the ability to utilize discretion when considering future amendment requests.

However, if the Plan Commission is not willing to approve the County Planning Department's February 19, 2003 recommendation, the City of De Pere requests the following language be incorporated into the amended SSA Plan:

1. The dispute resolution process should take place over a defined period of time. We believe 18 months is an appropriate amount of time to work through issues without causing undue delay to either party.
2. In the event that no resolution is achieved an independent third party arbitrator should be engaged to resolve the dispute.
3. The conflict resolution section should include the following specific criteria upon which the arbitrator shall base a decision.

    A. In all instances, each of the nine (9) elements and fourteen (14) comprehensive planning principles of the State's Smart Growth Legislation shall be satisfied.
    B. Consider each community's ability to provide municipal water service to all customers connected to a sanitary sewer system in an area under dispute in the most cost effective manner.
    C. The ability of each community to provide cost effective standard urban services including the following: police and fire protection, rescue services,

parks and recreation, trash and recycling services, street maintenance, transportation, and primary and secondary education services.

D. In addition to the above considerations, the arbitrator should assess the impact on the financial well being of the region including the economic demands and benefits that will result from each community's proposed development of the conflict area.

The City of De Pere has also reviewed the proposed language changes recommended by the Town of Lawrence. We do not believe this language adequately addresses issues raised by the DNR in Mr. Chuck Ledin's February 4, 2003 letter (attached). We further believe it would not be in the best interest of the region to eliminate the discretion of the County Plan Commission by compelling them to approve amendments to the SSA Plan without allowing for consideration of development impact to the requesting community and/or the region. Therefore, the City of De Pere objects to the inclusion of the proposed language submitted by the Town of Lawrence.

However, the City of De Pere does recognize the need to submit a revised SSA Plan to the DNR for consideration. Therefore, we have proposed the following changes to the language recommended by the Town of Lawrence for your consideration:

Revised Language

- If, following good faith negotiations toward such an intergovernmental agreement, one (or both) of the affected communities notifies the Brown County Planning Commission that the negotiations are an impasse, ~~the Brown County Planning Commission shall review the status of any existing sewer plant facilities plans or interceptor sewer capacity allocations relating to the affected area, as well as whether a designated management area has been assigned previously to the affected area. In all other circumstances~~, the affected communities shall enter into a formal mediation process to seek settlement of any outstanding issues between the communities. Following completion of a documented, formal, good faith mediation process, if one (or both) of the affected communities notifies the Brown County Planning Commission that the formal negotiation process has failed and still desires review of its Sewer Service Area amendment, the Brown County Planning Commission shall review the amendment application in accordance with all applicable **sewer service plan and smart growth** standards. The Brown County Planning Commission may recommend denial of the Sewer Service Area amendment request until the affected communities reach agreement.

- If: (1) the affected area is **undisputed and is** located within a city, village, sanitary district or a utility district; (2) the community requesting an expansion of the Sewer Service Area is the city, village, sanitary district or utility district; and (3) the application complies with all applicable state and county regulations

(including the goals and regulations and policies of the Sewage Plan), the Brown County Planning Commission ~~shall~~ **may** recommend allocating the Sewer Service Area to the requesting city, village, sanitary district or utility district.

- If the affected area is located within a previously approved Sewer Service Area, the Sewer Service Area shall remain allocated to the community to which the Sewer Service Area acreage was allocated, unless all or any portion of the affected area is annexed to a different city or village, or is added to a different sanitary district or utility district. Upon such annexation or addition, the

community is required to request an amendment to its Sewer Service Area as set forth previously.

- If: (1) the affected area is located within a city, village, sanitary district or utility district; (2) the community requesting an expansion of the Sewer Service Area is a different city, village, sanitary district or utility district; and (3) the community in which the affected area is located objects to the Sewer Service Area amendment request, the Brown County Planning Commission shall not review the Sewer Service Area request unless the requesting community annexes the affected area or the objecting community agrees to remove its objection.

The City of De Pere still prefers and recommends approval of the February 19, 2003 Brown County Planning Department's draft, but may be willing to support either the City's proposal or the Town of Lawrence's proposal as amended in this letter.

Sincerely,

Lawrence M. Delo
City Administrator
City of De Pere

MINUTES
BROWN COUNTY PLANNING COMMISSION
BOARD OF DIRECTORS
Wednesday, March 5, 2003
Room 604, Green Bay City Hall
6:30 p.m.

ROLL CALL:

Paul Blindauer	x	Greg Little	x
Keith Block	x	Dave Mau	x
Jennifer Brown	x	William Nabak	Exc
William Clancy	x	Gerald Nichols	x
Norbert Dantinne, Jr.	x	Bob Schlag	x
Ron DeGrand	x	James Schmitt	Exc
Paul Ehrfurth	x	Steve Schneider	Exc
Mike Fleck	x	Roy Simonson	x
Peter Harris	x	Gary Vanden Busch	x
Michael Hermes	x	Tim VandeWettering	Abs
Elaine Kittell	x	Carl Weber	x
Ronald Kryger	x	Dave Wiese	x

OTHERS PRESENT: Joel Dietl, Chuck Lamine, Cathy Larsen, Kathy Ambrosius, Matt Greely, Joe Linssen, Gerald Wesolowski, Jeff Wolford, and others.

1. Approval of the minutes of the February 5, 2003, regular meeting of the Brown County Planning Commission Board of Directors.

   A motion was made by K. Block, seconded by P. Ehrfurth, to approve the minutes as presented. Motion carried.

2. Public Hearings.

   a. A public hearing regarding an environmentally sensitive area amendment to the *Brown County Sewage Plan* for the Village of Bellevue removing an environmentally sensitive area for proposed single-family development.

      The public hearing was opened at 6:30 p.m. J. Dietl read the notice as it appeared in the Press-Gazette, and he identified the environmentally sensitive area (ESA) as shown on two maps in the staff report.

      J. Dietl stated that the DNR has approved filling in the wetland. The DNR stated that this area is not environmentally significant.

      J. Dietl stated that no one had signed up wishing to speak on this issue. B. Schlag, President of the Village of Bellevue, stated that he endorses the plan.

      The public hearing was closed at 6:35 p.m.

   b. A public hearing regarding the revised update to the *Brown County Sewage Plan* to address comments from the Wisconsin DNR letter received February 11, 2003.

The public hearing was opened at 6:35 p.m. J. Dietl read the notice as it appeared in the Press-Gazette. He stated that the changes made to the sewage plan are in response to the DNR's comments and staff's efforts to resolve the DNR's concerns. The main concern of the DNR was how the BCPC would handle boundary disputes. A copy of the changes was included in the packet mailed to the Commissioners and to the Towns of Lawrence, Pittsfield, Suamico, City of De Pere, and Village of Howard, as well as others.

People in attendance were given the opportunity to speak in the order that they had signed in.

Jerry Wesolowski, Commissioner of the Pittsfield Sanitary District #1, stated that he supported the first draft, opposed the second draft, and now supports the third draft of the county sewage plan, which is before the Commission tonight. It is his understanding that Map 4 will remove the community's SSAs if they are not within and part of the community.

Jeff Wolford, representative of the Suamico Sanitary District #1, stated that if Map 4 shows that Howard's SSAs are out of Suamico and Pittsfield, then he would support the plan as presented.

Matt Greely, a member of the Sewage Plan Steering Committee and representing the Town of Lawrence, stated that he opposes the need for the Town of Lawrence to request an amendment to obtain additional SSA acreage that the Town desires. He also stated that he prefers the revised language on page 76 of the plan prepared by the Town rather than that prepared by BCPC staff. However, if the Commission accepts the staff's revised language, the Town would not oppose it but would request that "sanitary district" and "utility district" be placed appropriately in the plan. C. Lamine passed out a handout showing the inclusion of "sanitary district" and "utility district" on page 76 of the revised language.

Joe Linssen, Engineer for the Town of Ledgeview, stated that he supports the plan as written with the inclusion of utility district to the revised wording on page 76. Ledgeview has many projects that are relying on the sewage plan's adoption, so he urged the Commission to adopt the plan tonight as presented.

Kathy Ambrosius, Town of Ledgeview Administrator, stated that she supports the plan and that its adoption is critical to projects within the Town.

C. Lamine passed out and read a letter to J. Dietl from Donald Hoeft of the Morrison Sanitary District (dated February 25, 2003). J. Dietl showed on a map the area proposed for inclusion in the plan being submitted to the DNR for approval.

C. Lamine passed out and read a letter to Charles Ledin, of the State of Wisconsin DNR, from Roy Simonson, Director of Public Works of the City of De Pere (dated February 12, 2003).

C. Lamine passed out and read a letter to the Brown County Plan Commission from Lawrence Delo, City of De Pere Administrator (dated March 5, 2003).

K. Block stated that he is the Chairman of the Village of Wrightstown Regional Planning Committee. Because the sewer plan was being rewritten and the Village's comprehensive plan was being rewritten, the Wrightstown Village Board decided to hold off on identifying the additional acreage permitted under the proposed SSA plan and to leave the SSA boundaries as they were, which also meant that there was no area for growth. They chose

this approach in the interest of good planning. However, there is an emergency situation now since adoption of the SSA has been delayed because there is development on both the east and west sides of the Village, and the map needs to be revised to allow sewer service to this development.

No one wished to speak on this matter, so the public hearing was closed.

3. Environmentally sensitive area amendment to the *Brown County Sewage Plan* for the Village of Bellevue removing an environmentally sensitive area for proposed single-family development.

President Mau stated that he would abstain from discussion of this item and turned the chair over to Vice-President N. Dantinne.

N. Dantinne and staff stated that the BCPC has no objection to removing the subject SSA.

A motion was made by B. Clancy, seconded by G. Nichols, to approve the request. Motion carried, with President Mau and B. Schlag abstaining.

Vice-President N. Dantinne turned the chair over to President Mau.

4. Brown County Planning Commission revisions to the *2002 Brown County Sewage Plan* to address comments from the Wisconsin DNR letter received February 11, 2003.

President Mau stated that staff's preferred language is reflected on page 76 of the handout passed out tonight, not the one included in the packet, which did not include reference to sanitary districts and utility districts.

A motion was made by G. Little, seconded by P. Harris, to approve the revised plan as presented, with the suggested inclusion of sanitary districts and utility districts.

President Mau pointed out that the motion does not include the addition of Town of Morrison and Village of Wrightstown acres.

P. Blindauer asked if the DNR is in agreement with the revised language. C. Lamine responded that it is. J. Dietl stated that Gary Kincaid of the DNR had also specifically requested the inclusion of sanitary districts into the revisions.

P. Blindauer asked if the Wrightstown and Morrison issues would be addressed after the vote is taken to modify the language. C. Lamine responded that it is his understanding that BCPC would vote to adopt the plan language in total. G. Little responded that the Commission should act on the material provided tonight.

N. Dantinne asked if the language still means that, for instance, the City of Green Bay has enough SSA to go into the Town of Humboldt if there is no agreement. In order for the Town to get sewer and water, it would have to annex to Green Bay. He stated that this is against anything the Town stands for. G. Little responded that he understands Humboldt's concerns but feels that the Town needs to get together to decide if it wants to enter into community economic development or if it wants to just sit still. The Town needs a program. N. Dantinne responded that no matter what the Town decides, it only has seven acres to work with.

M. Hermes asked why the new language is preferred over the language submitted by the Town of Lawrence and the City of De Pere. J. Dietl responded that the new language is simpler. There are

no significant changes between the three versions. C. Lamine responded that the DNR emphasized that they want to see a plan that all communities can live with. It appears that all communities have indicated that they can live with the revised language as presented by staff.

M. Hermes stated that it is difficult to vote on the plan, which includes maps, when he has not seen the maps. J. Dietl responded that some of the maps were not completed until shortly after the mailing but have been available since then. The maps will reflect the language approved tonight. For instance, Howard acreage will not be shown in Suamico; only Suamico acreage will be shown in Suamico.

A roll call vote was taken on the motion made by G. Little, seconded by P. Harris, to approve the revised plan as presented, with the suggested inclusion of sanitary districts and utility districts. Voting in favor of the motion were P. Blindauer, K. Block, J. Brown, W. Clancy, P. Ehrfurth, M. Fleck, P. Harris, M. Hermes, R. Kryger, G. Little, G. Nichols, B. Schlag, R. Simonson, G. Vanden Busch, C. Weber, D. Wiese, and D. Mau. Voting against the motion were N. Dantinne, R. DeGrand, and E. Kittell. The motion carried with 17 ayes and 3 nays.

C. Lamine stated that even though the maps are part of the plan, policy issues needed to be addressed first. This means putting all requests for map changes on hold for the present time. However, the map change request before the Commission tonight does not reflect a significant change to the plan and is consistent with existing and proposed policy.

A motion was made by W. Clancy, seconded by G. Vanden Busch, to add acres to the sanitary service area (SSA) for the Town of Morrison and the Village of Wrightstown, as presented on the maps submitted at the public hearing. Staff was asked why the areas in Morrison would be approved if they were not contiguous to the SSA. J. Dietl stated that the Commission should treat new development differently than old development. New development requests should be denied unless the development is contiguous. Exceptions can be made for old development of established homes, buildings, etc. when they have evidence of failed private sewage systems and there is no need to extend sewer lines.

G. Little stated that the Village of Wrightstown is skirting the amendment process, and he supports their approach. His concern, however, is that Wrightstown's request could be granted, but Lawrence has to spend the time and money to follow the amendment process. G. Nichols asked why approval couldn't be given to Lawrence, as well as Morrison and the Village of Wrightstown. C. Lamine responded that the Village of Wrightstown's request is unique and is consistent with the plan, which the Commission has just adopted. P. Blindauer asked when the Town of Morrison's and Village of Wrightstown's requests should be submitted if it is denied tonight. C. Lamine responded that it should be submitted as soon as possible. J. Dietl responded that the Town of Morrison has already submitted the necessary paperwork.

N. Dantinne stated that he thought the updated SSA plan was going to reduce the number of amendments and that if the Morrison and Wrightstown requests were denied, we would face two amendments within a month of adoption of this plan. G. Little stated again that he supports Wrightstown's request and that the Commission should act aggressively on it.

A roll call vote was taken on a motion made by W. Clancy, seconded by G. Vanden Busch, to add acres to the sanitary service area (SSA) for the Town of Morrison and the Village of Wrightstown, as presented on the maps submitted at the public hearing. Voting in support of the motion were K. Block, J. Brown, W. Clancy, N. Dantinne, R. De Grand, P. Ehrfurth, M. Fleck, P. Harris, M. Hermes, E. Kittell, R. Kryger, G. Little, G. Nichols, B. Schlag, R. Simonson, G. Vanden Busch, C. Weber, D.

Wiese, and D. Mau. Voting against the motion was P. Blindauer. The motion carried with 19 ayes and 1 nay.

5. Brown County Comprehensive Plan

   a. Interviews with BCPC members

      C. Lamine stated that letters have gone out, and hopefully the interviews will be completed before the April BCPC meeting.

      C. Lamine stated that he, President Mau, N. Dantinne, and M. Fleck met with Alice Dahl and Ken Simons of the County Board to talk about how to include the Board in the comprehensive planning process. C. Lamine stated that he would be giving a 10-minute update/presentation at their March 19 meeting. He would also like to schedule a one-on-one interview with each County Board member.

   b. Traveling BCPC meeting schedule

      The BCPC Board of Directors will be "on the road" for the next couple of months. A schedule of meeting dates and locations is included in the packet. It was pointed out that next month's meeting would be on the **second Wednesday of the month, April 9 (due to the April elections), at the Town of Glenmore Community Center.**

   c. Brown County Comprehensive Plan newsletter

      A copy of the newsletter was given to each Commissioner. A copy was mailed to approximately 300 people, as well as emailed to approximately 120 people.

   d. Comprehensive Plan speakers series

      A schedule for the speakers series is included in the packet, with presentations on Thursday, March 13; Thursday, March 20; and Wednesday, March 26 – all at the East De Pere High School Auditorium. C. Lamine stated that he has received a verbal confirmation from the Wisconsin DOT that it will cover the cost through a grant for the first evening of the speaker series. Staff will circulate notices to invite the public.

      E. Kittell asked about the listening groups. C. Lamine responded that the sewage plan revisions took more time than anticipated. The listening groups would take approximately two months to organize.

      G. Nichols stated that the Village of Ashwaubenon has hired a firm to assist with their comprehensive plan, and he asked how its plan would be incorporated into the County's plan. C. Lamine responded that Lisa Conard, of the Brown County Planning Department, is a member of the Ashwaubenon Citizens Advisory Committee. He suggested that Ashwaubenon's consultant contact Planning staff.

6. Director's Report

   a. Update regarding recruitment for Transportation/GIS Planner

      C. Lamine stated that interviews are continuing. Hopefully, they will have someone on-board before the April meeting.

b. BCPC Board of Directors roster and appointment terms

A roster of the BCPC directors was handed out to the Commissioners. S. Schneider's appointment representing Pittsfield and Ledgeview is still pending. All others whose terms expired March 1, 2003, have been reappointed.

C. Lamine stated that he will be attending the National American Planning Association (APA) conference in Denver the first week in April.

7. Brown County Planning Commission staff updates on work activities during the month of February 2003.

No comments were made, and the updates were accepted as presented.

8. Other matters

None.

9. Adjourn

A motion was made by N. Dantinne, seconded by W. Clancy, to adjourn. Motion carried.

The meeting adjourned at 7:43 p.m.

:cml

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

March 31, 2003

Mr. Chuck Lamine
Brown County Planning Commission
100 North Jefferson Street, Room 608
Green Bay, WI 54301

Subject: Brown County Sewer Service Area Plan Update

Dear Mr. Lamine:

We've completed our review and approve of the proposed 2002 update to Brown County Sewer Service Area Plan. This plan update involves the addition of 18,121 acres to the various urban service areas in Brown County -- 7,769 acres of these are developable. This plan update also sets forth a number of policy and procedural modifications from the previous plan.

The approval of this revision does not constitute approval of any of the following:

- private sewage systems pursuant to Chapter ILHR 83, (WI Admin. Code),
- sewer extension pursuant to Chapter NR 110, (WI Admin. Code),
- authority to alter the bed or banks of any navigable waterway (Chapter 30, WI Stats.),
- certification for any wetland alteration (Section 401, Federal Water Pollution Control Act, and NR 103, 299, WI Admin. Code).
- takings of threatened and endangered resources pursuant to Wisconsin Statutes 29.415

Those approvals must be obtained separately from the respective agencies. In addition, storm water management plan development is required for any construction site activity disturbing five or more acres of land pursuant to Chapter NR 216 (WI Admin. Code). Any person aggrieved by this approval has the right to appeal the decision. Wisconsin Statutes and Administrative Code establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to s. 227.52 and 227.53, Wisconsin Statutes, a petition for review must be filed within 30 days after service of the decision. The respondent in an action for judicial review is the Department of Natural Resources. This notice is provided pursuant to s. 227.48(20), Wisconsin Statutes.

Sincerely,

Charles R Ledin

Charles R. Ledin, Section Chief
Great Lakes & Watershed Planning Section
Bureau of Watershed Management

c: George Boronow, NER - GB
Lakeshore Basin Leader - Sturgeon Bay
Gary Kincaid, GB
Gus Glaser - Sturgeon Bay

2002 BROWN COUNTY SEWAGE PLAN

AMENDMENT APPLICATION MANUAL

Adopted March 5, 2003

TABLE OF CONTENTS

I. INTRODUCTION

A. What Are Sewer Service Areas and Why Are They Important?

The Federal Clean Water Act requires that publicly-owned sewage treatment plants identify the areas they could serve within a 20-year time-period. In Wisconsin, these areas are called sewer service areas. These sewer service areas include all lands which are currently provided public sanitary sewer service and all lands which are envisioned to receive public sanitary sewer service within the next 20 years.

Only those lands located within an approved sewer service area can receive sanitary sewer service.

Both federal and state regulations direct how these areas will be identified and who will do this. In Wisconsin, the Department of Natural Resources (DNR) is responsible for establishing all sewer service areas. In Brown County and certain adjacent areas, the DNR has delegated some of this responsibility to the Brown County Planning Commission (BCPC). The BCPC establishes sewer service areas in its county sewage plan. That plan was prepared in 1972 and was updated in 1982, 1987, 1995, and again in 2003.

Using federal and state guidelines, the Brown County Planning Commission identifies sewer service areas for each community and/or sanitary district that has or is envisioned to receive sanitary sewer service within the next 20 years. These guidelines are based upon sound engineering, planning, and environmental principals and upon information contained within the DNR's Areawide Water Quality Management plans, local wastewater treatment plant facility plans, local and county comprehensive plans, cost-effectiveness studies, and state-prepared population projections. Usually, the larger the expected population of the community will be and the larger and better maintained the sewage treatment plant is, the larger its sewer service area can be.

Sound engineering, planning, and environmental principals often encourage that development occur with public sanitary sewer service. Because of this, most communities use these sewer service areas to help plan their growth. Thus, the communities in Brown County work in cooperation with the BCPC to identify a sewer service area that will best meet their future needs.

Federal and state guidelines also allow the boundaries of the sewer service areas to be revised and adjusted when necessary. At a minimum, it is recommended that they be reviewed at least once every five years to determine if circumstances warrant any change.

More detailed information about these sewer service areas can be found in Chapter 5 of the *2002 Brown County Sewage Plan*.

B. What Are Environmentally Sensitive Areas and Why Are They Important?

The Federal Clean Water Act and other federal and state regulations also require that any part of a sewer service area, which, if developed, could result in a significant adverse water quality impact, be identified and not provided sanitary sewer service. A significant adverse water quality impact would include any harm to surface or ground waters due to point or nonpoint source pollution. In addition, the incremental impacts of individually small actions, when they occur on a widespread basis throughout a watershed or along a water body, can also result in a significant adverse water quality impact. Examples of this include nonpoint source pollution, such as agricultural or construction site erosion, stormwater runoff from roads and parking lots, or the incremental grading or filling of wetlands and floodlands.

The Brown County Planning Commission refers to such areas as environmentally sensitive areas (ESAs). They include natural resource features, such as lakes, rivers and streams, floodways, shorelands, wetlands, and steep slopes adjacent to these areas.

The Brown County Planning Commission may allow limited development within the ESAs for such purposes as public and private utilities or recreational uses. For the most part, however, development, grading, and filling within these areas is prohibited.

The protection and preservation of these environmentally sensitive areas can result in:

- cleaner, safer, and more abundant water for drinking and recreation;
- control of flooding and erosion;
- reduced water, air, and noise pollution; and
- provision of wildlife habitat and healthy ecosystems and protection of rare, threatened, and endangered plant and animal species.

Conversely, the development of these areas can result in:

- water pollution;
- wet and flooded structures and property; and
- failing foundations, pavements, and structures.

When developing land within a sewer service area, all environmentally sensitive areas must be identified and preserved to protect the environment and to prevent serious and costly development problems.

More detailed information about these environmentally sensitive areas can be found in Chapter 6 of the *2002 Brown County Sewage Plan*.

C. What Are Amendments and Why Are They Important?

The *2002 Brown County Sewage Plan* does two very important things:

- it identifies a sewer service area (SSA) for each community and sanitary district in Brown County which has or might receive sanitary sewer service by the year 2020; and
- it identifies environmentally sensitive areas (ESAs) within the sewer service areas.

Any change of these areas is referred to as an amendment. There can be sewer service area changes, environmentally sensitive area changes, or both, but all are referred to as amendments. Each sewer service area or environmentally sensitive area amendment must meet certain specific requirements and criteria, which have been established by the Wisconsin Department of Natural Resources and the Brown County Planning Commission. Detailed information concerning these requirements and criteria are provided later in this document.

D. Who Can Ask for Amendments?

Any official representative of the state or federal governments, the county, a city, village, town, sanitary district, utility district, or sewerage district can apply for an amendment. Such a representative is commonly referred to as the applicant.

If a landowner or developer is requesting an amendment, he must first obtain the support and approval of the local unit of government before the BCPC will accept and review the amendment.

E. Who Is Responsible for Reviewing Amendments?

The Brown County Planning Commission and the Wisconsin Department of Natural Resources are responsible for reviewing and approving all amendments. In addition, the BCPC staff also typically requires that the local unit of government review and concur with the amendment.

F. When Can Amendments Be Requested?

An amendment can be requested at any time. However, it is strongly recommended that the applicant get local approval of the change first and then meet with the staff of the Brown County Planning Commission to discuss the change. This is very important because an amendment is typically reviewed by the BCPC only if the local unit of government

supports the request. In turn, the DNR will typically not review an amendment until it has first been reviewed by the BCPC. Also, the more information the applicant can provide supporting the request, the better the chances are that the amendment will be reviewed in a timely manner.

It is especially important that the applicant keep in mind that review by the Brown County Planning Commission and the Wisconsin Department of Natural Resources can take as long as three months or even longer for especially complicated amendments.

Remember, no sewered development or associated construction can occur until this review is complete and the amendment approved.

G. What Kinds of Amendments Are There?

The BCPC has created an amendment system in order to both facilitate a quicker turnaround in the review of those sewer service area changes which are small in scope and impact and to provide a closer more comprehensive review for those amendments which are more complicated.

As established by the Brown County Planning Commission, there are three amendment types:

- Minor Sewer Service Area Amendments (Type 1)
- Major Sewer Service Area Amendments (Type 2)
- Major Environmentally Sensitive Area Amendments (Type 3)

There are also five amendment policies:

- Plan Correction (Policy #1)
- Acreage Swap (Policy #2)
- Existing Development (Policy #3)
- Special Regional Uses (Policy #4)
- Proper Land Use Planning (Policy #5)

Each amendment type and amendment policy has its own special set of requirements. These are presented in the following section of the *Amendment Application Manual*. In addition, each of the 15 different kinds of amendments has its own special set of criteria that must also be addressed. These criteria are presented in the third section of this manual.

H. How Do I Start?

The first step is to determine exactly what you want to do. When you know what property is involved and what it will be used for, check the Brown County Planning Commission's sewer service area maps to see if any changes need to be requested. The BCPC and the local community both have a larger color map of the sewer service area and the environmentally

sensitive areas in their offices. A copy of these maps are also available for viewing and for downloading at the Brown County website (www.co.brown.wi.us/Planning/natural_resources)

The second step is to check with the local unit of government to see if it will support your change. Remember, the Brown County Planning Commission will typically not review any change without local government support. It is also important at this time to notify any adjacent communities that may be affected by the proposed change. The Brown County Planning Commission will require that they also be provided an opportunity to review and comment on any amendment prior to action by the BCPC.

The third step is to contact the Brown County Planning Commission to arrange a meeting to discuss the change. The staff of the BCPC will let you know specifically what information you need to provide and will answer any questions you have about the amendment process.

The fourth step is to fill out the appropriate part of the *Amendment Application Manual* and gather any other information you need or want which supports your request. This can include maps, letters of support, technical studies, or special reports or plans. The more detailed and complete the information provided with the amendment application, the less likely that delays will occur. Review of the amendment by the BCPC typically does not begin until after all information requested in the *Amendment Application Manual* is provided to the BCPC.

It is important to note that the sewer service area guidelines set forth in Chapter 5, particularly those that deal with the expansion of sewer service area by one community into another community, must also be addressed in any amendment. Documentation of management area status, discussions with adjacent communities, and other similar information must be provided along with the amendment application.

In certain rare instances of documented hardship, the BCPC may review incomplete amendment applications or may approve the amendment contingent upon receipt of the missing information. In such instances, the missing information must not involve local support or engineering or environmental concerns associated with the amendment request. Applicable situations will be decided by BCPC staff on a case-by-case basis as discussed in Chapter 7 of the *2002 Brown County Sewage Plan*.

The last step is to provide the amendment application and any additional information to the Brown County Planning Commission. This must always include, at a minimum:

- documentation of appropriate support for the specific change;
- a map showing the requested change; and

- a letter explaining the change and its reasons.

Detailed information on the requirements and criteria for the various amendments is set forth in the following sections of this manual.

I. What Happens After an Amendment Is Provided to the BCPC?

When all required materials are submitted to the Brown County Planning Commission, the BCPC staff will have seven days to review the materials for accuracy and completeness. At this time, the BCPC shall contact the Wisconsin Department of Natural Resources and any other concerned units or agencies of government for additional review and comment on this matter. Should all information be in order, the BCPC will have another 14 working days (for minor amendments) or 38 working days (for major amendments) to complete their review. A public hearing to obtain public comment will also be held.

If the submitted information is incomplete or in error, review will not begin until this problem is corrected. At the end of its review, the BCPC staff will submit a letter to the applicant indicating staff's decision.

Should the BCPC staff approve the amendment as submitted, or in a revised form, and should the applicant agree with the findings and conclusion of the BCPC, the agreed upon change will be reflected in the county sewage plan and in all related sewer service area planning efforts.

If the request was a minor amendment, the agreed upon change is then final.

If the request was a major amendment, BCPC staff will arrange a public hearing on this matter. That same evening, the BCPC staff will present its findings and the public hearing comments to the Brown County Planning Commission Board of Directors. Should the Board of Directors approve the amendment as submitted or revised and should the applicant agree, the amendment request and all related information would then be provided to the main office of the Wisconsin Department of Natural Resources in Madison. Should the DNR approve the amendment as submitted or revised and should the applicant agree, the change is then final.

J. What If I Disagree With the Findings of the BCPC or the DNR?

Should the applicant disagree with the findings and decision of the Brown County Planning Commission staff regarding a minor amendment, the applicant may petition to be heard by the Brown County Planning Commission Board of Directors.

The procedure for petitioning the Brown County Planning Commission Board of Directors for review of an amendment is as follows:

- the applicant must submit a letter to the BCPC requesting that the Board of Directors review the amendment request; and
- the applicant must resubmit the request as a major amendment. Review of the amendment request will then proceed as outlined under major amendments.

Should the applicant disagree with the findings and recommendation of the Brown County Planning Commission Board of Directors regarding a major amendment, the applicant may so indicate to the Wisconsin Department of Natural Resources when the BCPC submits its materials and information to the DNR.

The Wisconsin Department of Natural Resources will review and consider this matter and will then issue its decision. Their decision on this matter is final.

II. AMENDMENT REQUIREMENTS

Every amendment request must meet the requirements of at least one of the three amendment types and at least one of the five amendment policies.

Also as previously noted, all amendments must be based upon sound engineering, planning, and environmental principals. If an expansion of a sewer service area by one community into another community is involved, documentation indicating conformance with the guidelines set forth in Chapter 5 regarding this matter is also necessary. Furthermore, all amendments must be in conformance with pertinent federal, state, county, and local rules and regulations, not the least of which include federal and state water quality certification procedures, county shoreland and subdivision ordinances, and local zoning. And last, all amendments should also generally be consistent with local wastewater treatment plant facility plans, local and county comprehensive plans, cost-effectiveness studies, and state-prepared population projections.

A. Amendment Types

The following three amendment types have been created in order to recognize the differences between sewer service area changes and environmentally sensitive area changes. The three amendment types have also been created to distinguish amendments that have a smaller scope and impact from those amendments that have a larger impact and warrant a more detailed review.

- **Minor Sewer Service Area Amendment (Type 1).** This type of amendment applies to any sewer service area boundary change that involves five acres of land or less.

- **Major Sewer Service Area Amendment (Type 2).** This type of amendment applies to any sewer service area boundary change which involves more than five acres of land or which presents a unique or difficult to address situation.

- **Major Environmentally Sensitive Area Amendment (Type 3).** This type of amendment applies to any environmentally sensitive area boundary change.

B. Amendment Policies

An amendment policy is a description of the reasons and justification for the sewer service area or environmentally sensitive area change. Both the DNR and the BCPC require that sound engineering, planning, and environmental principals justify all amendments. Such principals are typically based upon consistency with state official population forecasts, local, county, and state

plans, ability to provide cost-effective sanitary sewer service, etc. The *2002 Brown County Sewage Plan* has identified the following five amendment policies:

- **Plan Correction (Policy #1).** Corrections to a sewer service area or environmentally sensitive area can be made to fix an error in the maps or data of the county sewage plan or to reflect more accurate and up-to-date information due an approved regulatory change or field determination.

  Specific examples of changes that qualify under this policy include:
  - sewer service area boundary changes as a result of an agreement between two or more communities concerning an existing shared boundary;
  - environmentally sensitive area boundary changes made as a result of a DNR-approved flood study. (However, applicable ESA setback/buffers within the subject location, such as the minimum 100-foot navigable stream setback, steep slopes, or wetland setback/buffers, would still apply.);
  - environmentally sensitive area boundary changes as a result of an ACOE- and DNR-approved wetland field verification. (However, applicable setback/buffers within the subject location, such as the steep slopes or wetland setback/buffers, would still apply.);
  - environmentally sensitive area boundary changes as a result of a DNR or Brown County Zoning Department navigability determination. (However, applicable setback/buffers within the subject location, such as the minimum 100-foot navigable stream setback, steep slopes, or wetland setback/buffers, would still apply.);
  - environmentally sensitive area boundary changes as a result of more accurate and detailed topographic mapping (typically to refine steep slope locations and extent); and
  - environmentally sensitive area boundary changes as a result of a detailed stormwater management plan and/or Chapter 30 permit approved by all appropriate regulatory agencies. Such changes can include the addition or relocation of non-navigable streams and appropriate setback/buffers and changes to slopes. Applicable setback/buffers may also be revised if specifically reviewed and approved by the appropriate regulatory agencies (typically the local community and the DNR under its NR 216 or Chapter 30 permit programs).

- **Acreage Swap (Policy #2).** Removing land from one location within a sewer service area or environmentally sensitive area and replacing the same amount and type of land back within another location.

The lands to be removed and added must typically not result in the creation of a "hole," "island," or narrow extension of SSA. An exact acre for acre swap is preferred.

- **Existing Development (Policy #3).** Sewer service areas and environmentally sensitive areas may be revised to accommodate areas of existing development provided that such changes can be accomplished in a cost-effective and environmentally-sound manner and other options or alternatives have been similarly considered.

  Specific examples of changes that qualify under this policy include:
  - sewer service area boundary changes as a result of addition of existing development with currently functioning onsite sewage disposal systems. Such changes must undertake a facilities plan and cost-effectiveness study which determines that the best long-range solution for sewage disposal of the subject area is connection to the proposed public sewer system. These studies must investigate and compare all reasonable alternatives, including use of conventional and non-conventional onsite sewage disposal systems, including community onsite sewage disposal systems, deferment of connection to public sewer until the next scheduled update of the county sewage plan, and connection to other public sewer systems. When such changes are fully consistent with local and county "Smart Growth plans" for the extension of urban services, such as public sanitary sewer and water service, such developed lands may be added to the appropriate SSA without application of the population projection acreage allocation analysis. All other amendment criteria would apply, however.
  - sewer service area boundary changes as a result of addition of existing development with failing onsite sewage disposal systems. Such changes must undertake a facilities plan and cost-effectiveness study which determines that the best long-range solution for sewage disposal of the subject area is connection to the proposed public sewer system. These studies must investigate and compare all reasonable alternatives, including use of conventional and non-conventional onsite sewage disposal systems, including community onsite sewage disposal systems, deferment of connection to public sewer until the next scheduled update of the county sewage plan, and connection to other public sewer systems. Such developed lands may be added to the appropriate SSA without application of the population projection acreage allocation analysis. All other amendment criteria would apply, however.

- **Special Regional Uses (Policy #4).** Sewer service areas and environmentally sensitive areas may be revised provided there is a documented need for a unique facility or development of regional or

statewide importance and the change can be accomplished in a cost-effective and environmentally-sound manner. Significant adverse water quality impacts will not be allowed. An example includes development for which a special location is required (such as regional parks, prisons, landfills, and airports).

- **Proper Land Use Planning (Policy #5).** Sewer service areas and environmentally sensitive areas may be revised to reflect unanticipated growth and development trends when in accord with sound engineering, planning, and environmental principals. Such development must be in accord with local, county, regional, and state plans, rules, and regulations.

  Specific examples of changes that qualify under this policy include:
  - sewer service area changes as a result of assigning additional sewer service area acreage to the subject SSA, which had previously been held in reserve at the time of the last update of the county sewage plan;
  - sewer service area changes as a result of loss (development) of previously vacant developable land within the SSA. The *2002 Brown County Sewage Plan* allows SSA acreage to be replenished when the amount of such acreage within the SSA falls below the amount stated in the approved population projection acreage allocation for that SSA;
  - Sewer service area changes as a result of unanticipated rates of growth within the community; and
  - Sewer service area changes as a result of intergovernmental services or boundary agreements between neighboring communities.

III. AMENDMENT CRITERIA

This section of the *Amendment Application Manual* sets forth the detailed information relating to the criteria of each possible combination of the three amendment types and the five amendment policies. As previously noted, all amendments must be submitted under and must be consistent with at least one of the amendment types, one of the amendment policies, and the following pertinent criteria.

Although hardship cases may exist and may warrant conditional BCPC review and/or approval and special circumstances may sometimes warrant a unique approach in an amendment's review and consideration, the intent of this plan is to fully, consistently, and fairly apply the goals, objectives, policies, requirements, and criteria set forth in the *2002 Brown County Sewage Plan* and in this *Amendment Application Manual.*

However, in no instance shall an amendment be approved by the Brown County Planning Commission that is not in conformance with at least a preponderance of the following criteria nor shall an amendment be approved which does not promote the cost-effective and environmentally-sound provision of public sanitary sewer service.

Details of the amendment criteria are summarized in a series of checklists found at the end of this section.

A. Letters of Support

All amendments must include appropriate letter(s) of support. Letters of support may be provided by the chief elected official of the community or organization, by its governing body, or by any representative authorized to speak on behalf of the community or agency on such matters. The letters of support must specifically reference the requested amendment.

Locally sponsored minor amendments and major ESA amendments must also include a letter of support from the affected local unit of government.

Locally sponsored major SSA amendments must include a letter of support from the affected local unit of government, the operator of the subject sewerage system, and the pertinent sanitary district and sewerage district.

Letters of support from affected property owners are required for all ESA amendments but, while often helpful and beneficial, are not required for SSA amendments.

When an amendment is sponsored by the DNR or the BCPC, all reasonable efforts will be made to obtain local support. However, while a consensus of

affected units of government will always be sought by the DNR and the BCPC, it is recognized that in some cases unanimous support of an amendment may not be achieved. In those cases, the DNR and the BCPC will have to weigh the positions of the parties concerned and make a final determination concerning the issues involved.

Amendments that fail to receive applicable state, county, or local support will not meet this criterion.

Minor Sewer Service Area Amendment (Type 1) Checklist

Criteria	Policy #1	Policy #2	Policy #3	Policy #4	Policy #5
Letters of Support	X	X	X	X	X
Letter of Intent/Explanation	X	X	X	X	X
Map(s)	X	X	X	X	X
Amendment Fee	N/A	X	X	X	X
Sewage Conveyance and Treatment Analysis	N/A	X	X	X	X
Cost-effectiveness Analysis	N/A	X	X	X	X
Public Water Supply and System Analysis	N/A	X	X	X	X
Compliance with County and Local Comprehensive Plans	N/A	X	X	X	X
Population Projection Acreage Allocation Analysis	N/A	N/A	X	N/A	X
ESA Impact Analysis	N/A	X	X	X	X
Erosion Control and Stormwater Management Analysis	N/A	X	X	X	X
Intergovernmental Cooperation and Coordination Analysis	N/A	X	X	X	X

X = required N/A = not applicable

Major Sewer Service Area Amendment (Type 2) Checklist

Criteria	Policy #1	Policy #2	Policy #3	Policy #4	Policy #5
Letters of Support	X	X	X	X	X
Letter of Intent/Explanation	X	X	X	X	X
Map(s)	X	X	X	X	X
Amendment Fee	N/A	X	X	X	X
Sewage Conveyance and Treatment Analysis	N/A	X	X	X	X
Cost-effectiveness Analysis	N/A	X	X	X	X
Public Water Supply and System Analysis	N/A	X	X	X	X
Compliance with County and Local Comprehensive Plans	N/A	X	X	X	X
Population Projection Acreage Allocation Analysis	N/A	N/A	X	N/A	X
ESA Impact Analysis	N/A	X	X	X	X
Erosion Control and Stormwater Management Analysis	N/A	X	X	X	X
Intergovernmental Cooperation and Coordination Analysis	N/A	X	X	X	X

X = required N/A = not applicable

Major ESA Amendment (Type 3) Checklist

Criteria	Policy #1	Policy #2	Policy #3	Policy #4	Policy #5
Letters of Support	X	X	X	X	X
Letter of Intent/Explanation	X	X	X	X	X
Map(s)	X	X	X	X	X
Amendment Fee	N/A	X	X	X	X
Sewage Conveyance and Treatment Analysis	N/A	X	X	X	X
Cost-effectiveness Analysis	N/A	X	X	X	X
Public Water Supply and System Analysis	N/A	X	X	X	X
Compliance with County and Local Comprehensive Plans	N/A	X	X	X	X
Population Projection Acreage Allocation Analysis	N/A	N/A	X	N/A	X
ESA Impact Analysis	N/A	X	X	X	X
Erosion Control and Stormwater Management Analysis	N/A	X	X	X	X
Intergovernmental Cooperation and Coordination Analysis	N/A	X	X	X	X

X = required N/A = not applicable

B. Letter of Intent/Explanation

All amendments must include a letter from the applicant that fully explains the purpose and intent of the amendment. The letter must also identify the subject area and which amendment type and policy are applicable.

Inclusion of any other information that would support the amendment request is also strongly encouraged.

Amendments that fail to provide an appropriate letter of intent/explanation will not meet this criterion.

C. Map(s) of Subject Area/Amendment Request

All amendments must include a map or maps of the subject area. The map(s) must specifically identify the proposed changes at a scale and detail acceptable to BCPC staff. The map(s) shall not only identify the subject area but shall also identify all other information applicable to the amendment request. The applicant must contact BCPC staff prior to submittal of an amendment request in order to determine specific mapping requirements.

While map(s) for minor SSA and Policy #1 amendments need not be to scale and can be similar in nature to a sketch plan, map(s) for all other amendments shall be to scale and shall be adequately detailed to accurately and legibly show all pertinent information.

For SSA amendments, mapping requirements should generally include:

- the extent of the subject area.
- the location of pertinent municipal boundaries, property boundaries, sanitary district/sewerage district boundaries, sanitary sewers and other major utilities, easements, rights-of-way, land uses, and zoning districts within and immediately adjacent to the subject area.
- the generalized location, extent, and identification of proposed development and land-disturbing activities.
- the generalized location and extent of erosion control and stormwater management activities.
- the generalized location and extent of pertinent major natural resource features, such as lakes, rivers, streams, floodlands, wetlands, and steep slopes. Of particular importance is the identification of the ESAs.
- the location and extent of the existing and proposed SSA boundaries.

For ESA amendments, mapping requirements should generally include:

- the extent of the subject area.
- the location of pertinent municipal boundaries, property boundaries, easements, rights-of-way, land uses, and zoning districts. Of particular importance is the identification of such features as drainage easements, conservancy districts, and publicly- or privately-owned recreational lands.
- the location, extent, and identification of proposed development and land-disturbing activities.
- the location, extent, and identification of proposed erosion control and stormwater management facilities.
- the location and extent of all pertinent natural resource features, such as lakes, rivers, streams, drainageways, floodlands, shorelands, wetlands, steep slopes, critical soils, and significant vegetative, topographical, geological, archeological, and historic features within and immediately adjacent to the subject area. All such pertinent features shall be field verified and approved by the appropriate regulatory agencies, and this verification shall be provided to BCPC staff.
- the location and extent of the existing and proposed ESA boundaries.

The greatest level of detail will typically be necessary for ESA amendments, as accurate locations of all pertinent physical and natural resource features are often critical to such an amendment's approval. Slightly less detailed mapping will typically be necessary for major SSA amendments, as only accurate locations of the proposed SSA boundary changes are critical. Less detailed mapping will typically be acceptable for minor SSA amendments.

BCPC staff may require additional mapping requirements on a case-by-case basis. Such additional mapping will typically be required when DNR

and/or BCPC staff believes a possible adverse water quality impact may occur, when unique or critical natural resources are involved, or when mitigation or enhancement efforts are proposed. Examples of such mapping include detailed flood studies, geo-technical and slope analysis studies, grading and drainage plans, detailed erosion control and stormwater management plans, soil surveys, vegetation surveys, and landscaping plans.

Amendments that fail to provide appropriate detailed maps will not meet this criterion.

D. Amendment Fees

An amendment review fee will be charged for most amendments to help defray the cost involved with Brown County Planning Commission's review and documentation of the amendment request.

Those amendments which meet the requirements of Policy #1 or which are sponsored by the DNR or BCPC shall not be subject to an amendment fee.

The fee for all other minor amendments shall be $200 and $900 for all other major amendments. This fee must be submitted to the Brown County Planning Commission in full at the time of the amendment's submittal.

Amendments that fail to provide the appropriate amendment fee will not meet this criterion.

E. Cost-Effectiveness Analysis

Most amendments will be required to provide a cost-effectiveness analysis. Such an analysis will not be necessary for amendments that meet the requirements of Policy #1.

For all other amendments, the analysis should include a brief review of the relationship of the subject area to adjacent SSAs, ESAs, sanitary and sewerage districts, and sewerage systems, other options or alternatives available for resolution of the subject issue, and the reasons for selection of the preferred alternative.

For major SSA amendments under Policy #3, the analysis should specifically include a discussion of why continued use of onsite sewage disposal systems was not chosen, why the extension of public sewers could not be deferred until a regularly scheduled update of the county sewage plan could be prepared, and what other options or arrangements for the provision of public sewer service could have been made. Costs associated with the provision of onsite and public sewer should be identified and compared. The comparison should be made for both sewered development densities, as

well as unsewered development densities, and for both a 20-year and a 50-year timeframe. A facilities plan should also be prepared which indicates the extent of failing onsite systems, the probability of other adjacent systems failing, and a detailed comparison of other alternatives for both onsite and public sewer service.

For major ESA amendments, the analysis should include a discussion of why an alternative design, development, or land use which would not have required an ESA amendment could not have been pursued and why a lesser level of intrusion into the ESA could not have been accomplished.

Amendments that fail to provide the appropriate cost-effectiveness analysis that indicates that the amendment is the most cost-effective alternative (within commonly accepted margins of error and barring any over-riding environmental or social concerns) will not meet this criterion.

F. Sewage Conveyance and Treatment Analysis

Most amendments shall be required to provide a sewage conveyance and treatment analysis. Such an analysis is not necessary for amendments that meet the requirements of Policy #1.

For all other amendments, the analysis should include a letter from the appropriate local engineer confirming the ability of the community's sewers to adequately convey the subject area's sewage.

For all major SSA amendments, the analysis should also include a letter from the operator of the downstream sewerage system (if different than the local community) and from the appropriate sewage treatment plant operator confirming their ability to adequately convey and treat the subject area's sewage. As outlined in Chapter 5, the analysis should also include a detailed description of the flows and loads to be generated by the subject development, as well as a description of the impact and relationship of those flows and loads to the design capacity and permit levels of the treatment facility.

Amendments that fail to provide the appropriate sewage conveyance and treatment analysis which indicates that the downstream sewerage system planned to be in place at the time of development of the subject area can adequately convey and treat the subject area's sewage flows and loads (in compliance with all applicable permits and approvals and in consideration of other existing and planned flows and loads) will not meet this criterion.

G. Public Water Supply and System Analysis

Most amendments will be required to provide a public water supply and system analysis. Such an analysis will not be necessary for amendments that meet the requirements of Type 4 or Policy #1.

For all other amendments, the analysis should include a brief review of the relationship of the subject area to adjacent public water supplies and systems and the options or alternatives for obtaining public water. If public water is to be provided, a letter from the appropriate service provider confirming this fact must be obtained. If public water is not to be provided, an explanation is required.

For major SSA amendments under Policy #5, the analysis should specifically address the proposed development's impact upon the adjacent public water supplies and public water systems. This analysis must include consideration of:

- identification and description of the proposed source of drinking water;
- the possibility and sources of potential drinking water contamination, excessive withdraw, lowering of water table levels, etc.; and
- current and projected future capacities within adjacent drinking water systems.

Amendments that fail to provide the appropriate public water supply and system analysis, which indicate that public water will be provided to the amendment area and that development of the amendment area will not adversely impact public water supplies and public water systems, will not meet this criterion.

H. Compliance with Local and County Plans and Planning Efforts Analysis

All amendments shall be required to provide a compliance with local and county plans and planning efforts analysis.

For all amendments, the analysis should indicate whether the subject area is located within an urban service area and/or has been designated to receive public sanitary sewer and other urban services, as identified by local and county plans. In addition, the analysis should also indicate whether an area development plan has been prepared for the subject area, what the current and planned land use and zoning are for the subject area, and whether they are consistent with the proposed amendment request.

For all ESA amendments, the analysis should also indicate whether the subject area has been identified for natural resource preservation or otherwise intended to be protected.

Amendments that fail to provide the appropriate compliance with local and county plans and planning efforts analysis that indicates that the

subject amendment is in compliance with local and county plans and planning efforts will not meet this criterion.

I. Population Projection Acreage Allocation Formula Analysis

Most amendments shall be required to provide a population projection acreage allocation formula analysis. Such an analysis is not necessary for amendments that meet the requirements of Policies #1 (except SSA exchanges), #2, or #4.

For all other amendments, the analysis should indicate the current amount of vacant developable land located within the subject sewer service area and compare that to the amount provided to the SSA under the county sewage plan to determine if additional vacant developable land is warranted.

For all amendments that meet the requirements of Policy #3, those developed lands which have confirmed the presence of failing onsite sewage disposal systems need not meet this criteria.

Amendments that fail to provide the appropriate population projection acreage allocation formula analysis that indicates that the vacant developable land located within the subject amendment will not cause the subject SSA to exceed its acreage allocation will not meet this criterion.

J. ESA Impacts Analysis

Most amendments shall be required to provide an ESA impacts analysis. Such an analysis is not necessary for amendments that meet the requirements of Policy #1 when the subject area has subsequently been determined not to be an ESA per approved flood studies, wetland field determinations, etc.

For all other amendments, the analysis should include a general description and identification of the ESAs within and immediately adjacent to the subject area, the anticipated impacts upon and land-disturbing activities within the subject ESAs, and any proposed erosion control and stormwater management activities.

For all ESA amendments, the analysis should also indicate the local and county shoreland zoning, conservancy zoning, and erosion control and subdivision ordinance requirements which pertain to the subject area and the proposed development's degree of conformance with those requirements. In addition, the location and delineation of all pertinent natural resource features, such as lakes, rivers, streams, drainageways,

floodlands, wetlands, and steep slopes, should be verified by the appropriate regulatory agencies and that information provided with the analysis.

If applicable and warranted, the DNR, BCPC, or local community may require the preparation of additional detailed studies, such as flood studies, drainage plans, grading plans, geo-technical studies, slope analysis studies, soil surveys, vegetation surveys, and landscaping plans. Such additional information will typically be required when DNR and/or BCPC staff believe a possible adverse water quality impact may occur, when unique or critical natural resources are involved, or when mitigation or enhancement activities are proposed.

It is very important to note that while the *2002 Brown County Sewage Plan* provides a means to amend and revise environmentally sensitive areas, the Brown County Planning Commission strongly recommends that such actions not be undertaken lightly or resorted to frequently. NR 121 states that ESAs not be developed due to environmental concerns. Research and practical application have long shown that natural resource features and systems are very difficult to recreate. While significant success has been experienced with enhancing previously damaged features or resources or mitigating some of the ongoing impacts upon these resources from adjacent development, this success often requires a substantial commitment of financial resources and technical expertise.

In general, the following guidelines should be considered during any proposed ESA amendment:

- First, try to avoid any impact on or need for an amendment of an ESA. Document these efforts.
- Second, if an impact or amendment is unavoidable, try to minimize it. Document these efforts.
- Third, if an impact and amendment cannot be avoided or minimized, undertake appropriate mitigation and/or enhancement efforts. Guidance for mitigation and/or enhancement efforts can often be obtained from local DNR staff. BCPC staff will place great consideration upon such input and the following guidelines.
    - Loss or degradation of particularly high quality natural resources will typically not be supported by BCPC staff, even with mitigation or enhancement efforts. Such resources would typically include DNR-identified Outstanding Resource Waters, Exceptional Resource Waters, and state-identified Natural Area Sites.
    - The emphasis for mitigation/enhancement efforts should be placed first upon maintaining or improving local water quality, second upon water quantity, third upon aquatic resources, fourth upon public recreation, and last upon terrestrial resources.
    - All such efforts should include appropriate erosion control and stormwater management practices both during and after

construction. These practices should be in accordance with the Wisconsin Construction Site Best Management Practice Handbook, the Wisconsin Stormwater Manual, and the USDA-NRCS Wisconsin Technical Guide. These practices should establish standards that achieve no increase of erosion, sedimentation, and stormwater runoff volumes and velocities greater than those present under pre-development conditions and, preferably, no greater than those present under pre-settlement conditions. Applicable nonpoint source performance standards and guidelines must also be noted. Those more natural practices, such as infiltration areas, vegetated buffers, or vegetated swales, are preferred over those more man-made practices, such as catch basins and storm sewers.

- Within the ESA features to remain or to be created, establishment of native habitat should be undertaken. Use of pre-settlement vegetation native to the subject area is preferred over all others.
- When creating or recreating a setback/buffer, a three tiered system should be undertaken. The target of the first tier, closest to the water body, should be eventual establishment of a mature riparian forest that can provide shade, leaf litter, woody debris, and erosion protection to the nearby water body. This tier should extend at least the size of two mature trees in width (about 25 feet) and should remain undisturbed. The target of the middle tier should also be the establishment of a mature riparian forest. This tier should vary in width depending upon stream order but would ideally extend the width of the 100-year floodplain or 50 feet, whichever is greater. Disturbance of this area for such activities as stormwater management and recreation should be allowed. The third tier, furthest from the water body, should be comprised of grasses; although, some trees, shrubs, and bushes could be allowed. This tier should extend about 25 feet in width and could be comprised of the backyards of adjacent development. However, target vegetation and buffer width of each of these three tiers should also take into account and often reflect the vegetation native to the specific area and the historic development patterns within lands immediately adjacent to the subject area.

Amendments that fail to provide the appropriate ESA impact analysis that indicates that there will be no significant adverse water quality impact will not meet this criterion.

K. Erosion Control and Stormwater Management Analysis

Most amendments shall be required to provide an erosion control and stormwater management analysis. Such an analysis is not necessary for amendments that meet the requirements of Policy #1 (except SSA exchanges).

For all other amendments, the analysis should generally describe what erosion control and stormwater management practices will be implemented. Such practices should describe and be in compliance with any local, county, and state requirements.

All amendments which contain an ESA, but which do not propose to impact that ESA, should also indicate what and where specific erosion control measures will be implemented to ensure such ESA protection.

All ESA amendments should include an erosion control and stormwater management plan. For minor ESA amendments, the erosion control plan should include both text and a map indicating the timing, placement, and the party responsible for implementation of the erosion control and stormwater management practices. Implementation of practices in accord with the Wisconsin Construction Site Best Management Practice Handbook, the Wisconsin Stormwater Manual, and the USDA-NRCS Wisconsin Technical Guide will be assumed to provide adequate protection of the subject ESA.

For all major ESA amendments, the erosion control and stormwater management plan should be more comprehensive and detailed. It should address erosion control and stormwater management both during and subsequent to construction. It should include a general site plan of the development, which depicts site boundaries, lot and road locations, existing structures, vegetative cover, soil types, watershed boundaries, direction of surface water flow, location of bridges, culverts, waterways, storm sewers, detention basins, etc., topography at 2-foot contour intervals, and drainage easements. It should also include a map of the site depicting the above features after the proposed development. This map should also include the location of the proposed erosion control and stormwater management practices. It should also include calculations of pre-construction and post-construction peak flows and rates, assumed runoff curve numbers, time of concentration, etc. Additionally, it should identify the timing and the parties responsible for implementation and maintenance of the practices.

The construction phase stormwater management facilities should by design reduce the average annual sediment load carried in runoff by 80%, as compared to no practices in place.

The post-construction phase stormwater management facilities should by design control 80% of the total suspended solids that would normally run off the site.

The stormwater management facilities should also be in conformance with the erosion control and stormwater management guidelines set forth under the ESA Impacts Analysis criteria, as well as the following guidelines:

- Maintain or reduce pre-development peak runoff volumes and velocities for the 2-year, 24-hour storm event in Brown County.
- Maintain or reduce pre-development peak runoff volumes and velocities for the 25-year, 24-hour storm event in Brown County.
- Safely pass the 100-year, 24-hour storm event in Brown County.
- Provide 80% reduction of sediment loadings resulting from the 1-year, 24-hour storm event in Brown County assuming no sediment resuspension.

Amendments that fail to provide the appropriate erosion control and stormwater management analysis that indicates there will not be a significant increase of erosion or stormwater runoff above pre-development conditions will not meet this criterion.

L. Intergovernmental Cooperation and Coordination Analysis

Most amendments shall be required to provide an intergovernmental cooperation and coordination analysis. Such an analysis is not necessary for amendments that meet the requirements of Policy #1.

For all other amendments, the analysis should include documentation that indicates that adjacent local units of government which might be impacted by the proposed amendment have been informed of the proposal and have been provided an opportunity to comment on this matter. Efforts undertaken to resolve any concerns should also be noted.

It is intended that this approach will encourage adjacent communities to work together on such issues as land use planning and the provision of urban services. Although such local support should always be sought on these matters, it is recognized that such support might not always be obtainable. In those cases, the DNR and the BCPC will have to weigh the positions of the concerned parties and make a final determination based on the issues involved.

Amendments that fail to provide the appropriate intergovernmental cooperation and coordination analysis that indicates that adequate opportunities were provided to solicit adjacent community input will not meet this criterion.

IV. Summary

It has always been the intent of the Brown County Planning Commission to promote the sewer service area planning process for Brown County in as consistent and equitable a fashion as possible using the best engineering, planning, and environmental practices and principals available. In that regard, the BCPC has committed itself to preparing a document which promotes the efficient provision of urban services while, at the same time, protecting and preserving the natural resource features of the County.

While there are numerous federal, state, and local rules and regulations which must guide this type of planning process and while the efficient provision of sewer service and the protection and preservation of the natural environment are complicated and sensitive issues, it is the Brown County Planning Commission's hope that this plan, the latest in a series of plans which sets forth the sewer service areas and environmentally sensitive areas of Brown County, is as helpful as possible.

The Brown County Planning Commission stands ready to work with all parties interested in implementing this plan and its recommendations. Such assistance will always strive to achieve the community's goals and desires while encouraging the efficient provision of urban services in a cooperative fashion and encouraging the protection and preservation of our county's valuable natural resources.

Please join us in this effort and participate in making Brown County a better place to live and work.